CONTRACT DOCUMENTS AND
TECHNICAL SPECIFICATIONS
FOR

CITY OF MOORE
CITY HALL RENOVATION
BID No. 2025-010

CITY OF MOORE

CLEVELAND COUNTY, OKLAHOMA

SET NO.:
DATE: February 10, 2025

PREPARED BY:
City of Moore
City Manager's Office

CONTRACT DOCUMENTS

AND

TECHNICAL SPECIFICATIONS

FOR

CITY OF MOORE CITY HALL RENOVATION

PROJECT No. 2025-010

for

CITY OF MOORE
CLEVELAND COUNTY, OKLAHOMA

Prepared by:

TAP ARCHITECTURE
415 N. BROADWAY AVE.
OKLAHOMA CITY, OK 73102

Approved by:

_____

Glenn Lewis., Mayor

_____

Brooks Mitchell, City Manager

Notice to Bidders

Public Construction Contract

Date of Notice: **February 14, 2025**

Date Documents Available: **February 14, 2025**

SUBMISSION LOCATION & TIME: BY 1:30 P.M. March 7, 2025
Purchasing Agent Office, New City Hall 301 N. Broadway Moore, OK 73160-5130 Phone: 405.793.5000

Bid Opening: Date: March 7, 2025 Time: 2:00 p.m.

Location: 301 N. Broadway, Moore OK Council Chambers, City Hall

Project Title: CITY OF MOORE – CITY HALL RENOVATION, PROJECT No. 2025-010

Bid Instructions: Bids timely filed with the City Clerk shall be publicly opened and read aloud at the time and location specified as bids above. Bids received more than ninety six (96) hours, excluding Saturdays, Sundays and holidays, before the time set for opening of bids, as well received after the time set for opening of bids, will not be considered and will be returned unopened. Within sixty (60) days from the bid opening date, the successful bidder shall execute a written contract embodying all provisions of the bidding documents.

For Technical Information, contact: Greg Deaver, with the City of Moore
Phone Number: 405.793.5000

A Current Bid Holders List can be obtained by logging onto www.cityof.Moore.ok.us, City Clerk, Bid Items,

Description of Work: Provide construction for new buildings and site development for the Public Works Building and accessory Sand and Salt enclosure and CNG cover.

Estimated Cost Range of Project:		**Time for Project Completion**: **Calendar Days**	***Wage Rates:** **NO**
From:	To:		

Plans, Specs & Bidding Document Available at: **TAP Architecture**
415 N. Broadway Ave
Oklahoma City, OK 73102
7:30 a.m. to 5:30 p.m. Monday through Thursday Phone: 405.232.8787
8:00 a.m. to 12:00 p.m. Friday

Deposit for Plans & Specs: **$25.00 Nonrefundable**

Prebid Conference

Location: **301 N. Broadway** **Moore, OK** **(City Council Chambers (Room)**	**Time:** **10:00 a.m.** **Date:** **February 28, 2025**	Attendance Mandatory? **YES** FOR GENERAL CONTRACTOR

***Bid Bond*:** A cashier's check, a certified check, or a surety bond in the amount of five percent (5%) of the bid shall accompany the sealed proposal of each bidder. Deposits will be returned to the unsuccessful bidders. Deposits will be returned to successful bidder upon execution of contract documents.

*Bids shall also be made in accordance with the prevailing hourly rate of wages for this locality and project as determined by the Commission of Labor and filed with the Secretary of State in accordance with the provisions of 40 O.S. 1971, 197.1-17, which prevailing hourly rate of wages is made a part of this notice by reference as though fully set forth herein.

THE CITY COUNCIL OF THE CITY OF MOORE RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS.
CITY OF MOORE, OKLAHOMA By: Vanessa Kemp, City Clerk

CONTRACT DOCUMENTS AND
TECHNICAL SPECIFICATIONS
FOR CONSTRUCTION OF

CITY OF MOORE CITY HALL RENOVATION, PROJECT No. 2025-010

CITY OF MOORE
CLEVELAND COUNTY, OKLAHOMA

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SOLICITATION FOR BIDS

NOTICE is hereby given that the CITY OF MOORE, OKLAHOMA, will receive sealed bids at the Office of the Purchasing Agent, City Hall, 301 N. Broadway, Moore, Oklahoma, 73160-5130, until 1:30 o'clock P.M., Local Time, on the **07** day of **March 2025,** for the construction of

CITY OF MOORE CITY HALL RENAVATION,
PROJECT No. 2025-010

1. Bid Requirements.

    a. Bids shall be made in accordance and fully comply with

    Solicitation for Bids
    Requirements for Bidders
    Bidder's Proposal
    Plans and Specifications
    Contractors Qualifications

    and other bidding documents on file and available for examination at the Office of the City Clerk in City Hall. These documents are made a part of this notice as though fully set forth herein.

    b. Bids may require compliance with the prevailing hourly rate of wages for this locality and project as determined by the Commission of Labor and filed with the Secretary of State, a copy of which is on file with the City Clerk, in accordance with the provisions of 40 Oklahoma Statute 1991, 196.1-196.14, which prevailing hourly rate of wages is made a part of this solicitation by reference as though fully set forth herein.

    c. A cashier's check, a certified check, or a surety bond in the amount of five percent (5%) of the bid shall accompany the sealed proposal of each bidder. Such deposits will be returned to the unsuccessful bidders.

2. Filing of Bids.

    a. Bids received more than ninety-six (96) hours before the time set for opening of bids, (excluding Saturdays, Sundays, and holidays), and bids received after the time set for opening of bids will not be considered and will be returned unopened.

    b. Bids timely filed with the City Clerk shall be publicly opened and read aloud in the Council Chambers at City Hall immediately after the closing time above stated. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof. Within sixty (60) days from the bid date, the owner may award a contract to the successful bidder or reject any or all bids for the project.

3. Obtaining Documents.

   Digital complete sets of the Plans, Specifications and all other bidding documents may be obtained from the list provided with the bid documents or contact TAP Architecture, 415 N Broadway Avenue, Oklahoma City, Oklahoma 73102 (phone 405.232.8787). If hard copies are required by the contractor a **$25.00 per set deposit which shall be non- refundable.**

4. A **MANDATORY PRE-Bid Conference for General Contractors** will be held at **301 N. Broadway**, Moore, Oklahoma at **10:00 a.m.**, Local Time, on **February 28, 2025**. City Council Chambers.

5. The City Council of the City of Moore reserves the right to reject any or all bids.

For the CITY OF MOORE, OKLAHOMA

_____

BY: Vanessa Kemp, City Clerk

INFORMATION FOR BIDDERS

1. Receipt and Opening of Bids

The City of Moore (herein called the "Owner") invites bids on the forms attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Purchasing Agent until 1:30 o'clock, P.M., Local Time on **March 07, 2025,** and then at 2:00 P.M. will be publicly opened and read aloud at the Council Chambers, New City Hall, at 301 N. Broadway, Moore, Oklahoma. The envelopes containing the bids must be sealed, addressed to the City Clerk, 301 N. Broadway, Moore, Oklahoma, 73160-5130, and designated as bid for the

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof.

2. Preparation of Bid

Each bid must be submitted on the prescribed forms. All blanks and spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.

Bids and affidavits must be filed in sealed envelopes within the time limit for receiving proposals, as stated in the SOLICITATION FOR BIDS. Bid envelopes shall legibly bear the word "PROPOSAL" with the name of the Project. If forwarded by mail, the sealed envelope containing the bid **must** be enclosed in another envelope addressed as specified in the bid form. The original copy shall be filed with the CITY OF MOORE in the CITY CLERK's office in the MOORE CITY HALL. All blank spaces in the proposal forms shall be correctly filled-in and the bidder shall state the prices, typewritten or written in ink, both in words and numerals, for which he proposes to do the work contemplated or furnish the materials required. All prices shall be distinctly legible.

3. Method of Bidding

The Owner invites the following bid(s): **UNIT PRICE**

4. Bid Surety

Each bid must be accompanied by cash, certified check of the bidder, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of five percent (5%) of the bid. Such cash, checks, or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract, or, if no award has been made within 60 days after the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid.

Proposals will not be considered unless the original filed with the city is accompanied by the described Bid Surety made payable to the City of Moore. The proposal guaranty is required as evidence of good faith and as a guarantee that, if awarded the contract, the bidder will execute the contract and furnish the required bonds.

The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid.

5. Qualification/Disqualification of Bidders

The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out contract requirements and complete the work contemplated therein. Conditional bids will not be accepted.

Bidders will be disqualified and their proposals not considered for any of the following specific reasons (These reasons are not all inclusive):

a. Where more than one proposal for an individual firm, partnership, or corporation is filed under the same or different names; and where such proposals are not identical in every respect

b. Reason for believing that collusion exists among the bidders

c. Reasonable grounds for believing that the bidder holds interest in more than one proposal for the work contemplated or materials to be furnished

d. Incomplete work that, in the judgment of the city, will hinder or prevent the prompt commencement or completion of this project

6. Power of Attorney

Attorneys-in-fact who sign bid bonds or contract bonds must submit with each bond a certified and effectively dated copy of their power of attorney.

If the proposal is submitted by an individual, his name must be signed by him or his duly authorized agent and his post office address given. If the proposal is submitted by a firm or partnership, the name and post office address of each member of the firm must be given with the proposal signed by a duly authorized member of the firm or partnership. If the proposal is made by a company or corporation, the state in which the company or corporation is chartered, and business address must be given; and the proposal must be signed by a duly authorized official or agent. Powers of Attorney, authorizing agents, or others to sign proposals must be properly certified and on file with the City Clerk.

7. Time of Completion and Liquidated Damages

The Contractor hereby agrees to commence work under the Contract on a date specified in a written "Notice to Proceed" of the Owner, and to fully complete the project within **180 consecutive calendar days**. The Contractor further agrees to pay as liquidated damages, the sum of **Eight Hundred Dollars and 00/100 ($800.00) for each consecutive calendar day** thereafter as provided in the Contract and General Conditions.

8. Rejection of Proposals

The City reserves the right to reject any or all proposals submitted, all of which are subject to this reservation. Proposals shall be rejected for any of the following specified reasons (These reasons are not all inclusive):

a. Proposals received after the time limit stated in the solicitation

b. Proposal prices obviously unbalanced

c. Proposals that are incomplete insofar as the Non-Collusion Affidavit, required signatures, or containing any irregularities of substance

9. Notice of Award

The Owner will make every reasonable attempt to award the contract within ten (10) days of the bid opening date but reserves the right to examine all the bids in their entirety and to take whatever time may be required, in the best interest of the Owner, to accomplish a complete and fair bid analysis.

10. Method of Award - Lowest Responsible Bidder

Award of contract will be made by the City Council, upon recommendation of the City Manager, to the lowest responsible bidder submitting a responsive bid and meeting the requirements of the City. The Owner may reject all bids or may award the contract with any selected alternatives based upon available funding.

11. Cancellation of Award

The City reserves the right to cancel the award of any contract at any time before the execution of said contract without liability against the City.

12. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda's). The failure or omission of any bidder to examine any form, instrument, or document shall not relieve any bidder from any obligation in respect of his bid.

Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of the contract. Insofar as possible, the contractor must employ methods or means that will not cause any interruption of or interference with the work of any other contractor.

All bidders, by submittal of a proposal, represent that they have examined the site prior to submittal and are fully informed regarding facilities and conditions affecting work, costs, risks, and obligations to be met, regardless of any omissions of the specifications.

Any neglect or failure on the part of the bidder to obtain reliable information regarding the conditions to be encountered shall not relieve the successful bidder from any risks or liabilities or from the responsibility for the completion and acceptance of the project.

13. MANDATORY Pre-Bid Conference

A **Mandatory Pre-Bid Conference** will be held at **301 N. Broadway**, Moore, OK, at **10:00 a.m.** on **February 28, 2025. City Council Chambers.**

14. Addenda and Interpretations

No interpretation of the means of the plans, specifications, or other pre-bid documents will be made to any bidder orally.

Each written request for such interpretation should be addressed to the City Manager at 301 N. Broadway, Moore, Oklahoma, 73160-5130. To be given consideration, each such request must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications. Failure of any bidder to receive any such addendum or

interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so listed shall become part of the contract documents.

15. Security for Faithful Performance

The Contractor shall deliver the executed contract and all required surety bonds within ten (10) days upon receipt of the contract from the Owner. With the execution and delivery of the Contract, the Contractor shall furnish and file with the City in the amounts herein required, the surety bonds listed below. The surety on such bonds shall be a duly authorized surety company satisfactory to the Owner.

a. A good and sufficient Performance Bond in an amount equal to one hundred percent (100%) of the approximate total amount of the Contract, guaranteeing the full and faithful execution of the work and performance of the Contract and for the protection of the City and all property owners interested against any improper execution of the work or the use of inferior materials.

b. A good and sufficient Statutory Bond in an amount equal to one hundred percent (100%) of the approximate total amount of the Contract, guaranteeing payment for all labor, materials, and equipment used in the construction of the project.

c. A good and sufficient Maintenance Bond in an amount equal to one hundred percent (100%) of the total amount of the Contract, guaranteeing the maintenance in good condition of such project for a period of two (2) years from and after the time of its completion and acceptance by the City.

No surety will be accepted who is in default or delinquent on any bond or who holds interest in any litigation against the City. All bonds shall be made on forms furnished by the City and shall be executed by surety companies licensed to do business in the State of Oklahoma and shall conform to the requirements as set forth herein. Each Bond shall be executed by the Contractor and the Surety.

Should any surety on the Contract be determined unsatisfactory at any time by the City, notice will be given to the Contractor to that effect; and the Contractor shall forthwith substitute a new Surety or Sureties satisfactory to the City. No payment will be made under the Contract until the new Surety or Sureties, as required, have qualified and have been accepted by the City. The Contract shall not be operative, nor shall any payments be due until approval of the bonds has been made by the City.

16. Laws and Regulations

The bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout and they will be deemed to be included in the contract the same as though herein written out in full.

17. Sales Tax Exemption

Pursuant to Oklahoma Statutes, Title 68, 1356(10), Contractors and Subcontractors shall be exempted from the tax levied on the sale of tangible personal property or services necessary for the completion of this construction contract. Any Contractor or Subcontractor making purchases for this contract on behalf of the City of Moore shall certify, in writing, on the copy of the invoice or sales ticket to be retained by the vendor, that the purchases are made for and on behalf of the City of Moore.

Contractors and Subcontractors shall request a written Sales Tax Exemption by contacting the City Manager's office, City of Moore, 301 N. Broadway, Moore, Oklahoma, 73160-5130, Ph. 405.793.5020, who will issue such exemption on an individual project basis. It shall be the Contractor's and Subcontractor's responsibility to secure the Sales Tax Exemption and failure to do so will not lessen their liability for payment of the sales tax.

Two Tax Commission interpretations of the Oklahoma statutes Title 68, 1356(I0) are listed below to avoid contention among the City of Moore, its contractors, and the Tax Commission:

"*Exemptions apply to materials permanently incorporated into the project, but not to concrete forms nor to other tools."*

"The same reasoning precludes exceptions being applied to rental items."

The Contractor shall certify that purchases are made for or are on behalf of the City of Moore. Persons who make wrongful or erroneous certification(s) shall be guilty of a misdemeanor and shall be punished as provided in the statutes.

18. Safety Standards and Accident Prevention

With respect to all work performed under this contract, the Contractor shall:

a. Comply with the safety standard provisions of applicable laws, building and construction codes, and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations.

b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.

c. Maintain as required by OSHA standards, all required articles necessary for giving first aid to the injured.

19. Access to Site

Access to the site is illustrated on the location map. It shall be the Contractor's responsibility to determine restrictions, if any, as to loads, bridge and road clearances, channel depths, and private property limitations that may influence access to the site.

20. Notice of Special Conditions

Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

a. Time for Completion and Liquidated Damages
b. Wage rates and Insurance Requirements
c. Inspection and Testing of Materials
d. Stated allowances

21. Payments to Contractor

The Owner will make progress payments to the Contractor no more than once per month upon request of the Contractor. Pay requests take approximately 3-4 weeks to process.

Such payment will be made on the basis of an agreed estimate of work performed since the previous pay request, provided that the Contractor and the City Manager shall have previously come to an agreement as to the amount of the request prior to submission.

The City shall retain 5% of the amount of each estimate until the project is complete.

CONTRACTOR'S CHECKLIST OF REQUIRED ITEMS

		Completed*
1.	Bid Proposal	_____
2.	Bid Bond	_____
3.	Anti-Collusion Affidavit	_____
4.	Business Relationships Affidavit	_____
5.	Experience and Capability Questionnaire	_____

*Check when filled out, signed, and included with submission of bid packet.

BID PROPOSAL

Date: _____

The Honorable Mayor and City Council
City of Moore
301 N. Broadway
Moore, Oklahoma 73160-5130

RE: Proposal of _____ (hereinafter called "Bidder") a corporation/partnership/individual (strike out inapplicable term) organized and existing under the laws of the State of _____.

Gentlemen:

The Bidder, in compliance with your invitation for bids for the construction of

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

having examined the Plans and Specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding construction of the proposed project (including availability of material and labor), hereby proposes to furnish all labor, materials, and supplies to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Proposal will be made a part.

Bidder hereby agrees to commence work under this contract on a date to be specified in the written "Notice to Proceed" of the Owner and to fully complete the project within **180 consecutive calendar days** thereafter as stipulated in the Specifications. Bidder further agrees to pay as liquidated damages the sum of **EIGHT HUNDRED and 00/00 Dollars ($800.00) for each consecutive calendar day** thereafter that the Contract is not completed as provided in the General Conditions.

Bidder acknowledges receipt of the following Addenda:

_____

_____

Bidder agrees to perform all of the construction work described in the Specifications and shown on the Drawings for the following **UNIT PRICES**:

BID SCHEDULE
CITY OF MOORE CITY HALL RENOVATION No. 2025-010

ITEM #	EST. QTY.	UNIT	DESCRIPTION	UNIT PRICE	ITEM TOTAL
1	1.00	LS	Protective Screening during construction phase – owner will be occupying the building	$N/A	$
Unit Price In Words			Dollars		
2	1.00	LS	Demolition – walls and ceilings per plan	$N/A	$
Unit Price In Words			Dollars		
3	500.00	LF	New Partition Walls, Non-Load Bearing metal stud walls – 10', brace to structure	$	$
Unit Price In Words			Dollars		
4	12,000.00	SF	Partitions, 5/8" Gyp. Bd. wall finish, including under main stair, restrooms and any damaged drywall in demolition	$	$
Unit Price In Words			Dollars		
5	1.00	LS	Painting	$N/A	$
Unit Price In Words			Dollars		
6	1.00	LS	Misc. millwork & rough carpentry	$N/A	$
Unit Price In Words			Dollars		
7	1.00	LS	Architectural wood casework and built-ins	$N/A	$
Unit Price In Words			Dollars		
8	550.00	SF	Suspended gyp. bd. ceiling system	$	$
Unit Price In Words			Dollars		
9	4,000.00	SF	Suspended acoustical ceiling system, including repaired areas of demolition	$	$
Unit Price In Words			Dollars		
10	1.00	LS	Stair – leveling on an average of 15 treads to be compliant on risers	$N/A	$
Unit Price In Words			Dollars		
11	1.00	LS	New main stair riser / tread finishes	$N/A	$
Unit Price In Words			Dollars		
12	75.00	LF	New stair handrailing	$	$
Unit Price In Words			Dollars		

13	680.00	SF	Floor tile	$	$
Unit Price In Words			Dollars		
14	70.00	SF	LVT flooring	$	$
Unit Price In Words			Dollars		
15	750.00	SF	Wall tile, WT-01, WT-02, WT-03	$	$
Unit Price In Words			Dollars		
16	1,000.00	LF	Resilient base material	$	$
Unit Price In Words			Dollars		
17	19,500.00	SF	Tile carpeting, CP-01 & CP-02	$	$
Unit Price In Words			Dollars		
18	600.00	SF	Wall covering	$	$
Unit Price In Words			Dollars		
19	1.00	LS	Countertops – PLAM and solid surface	$N/A	$
Unit Price In Words			Dollars		
20	1.00	LS	Toilet partitions	$N/A	$
Unit Price In Words			Dollars		
21	1.00	LS	Bath accessories	$N/A	$
Unit Price In Words			Dollars		
22	11.00	EA	Hollow metal door frames	$	$
Unit Price In Words			Dollars		
23	11.00	EA	Architectural flush wood doors	$	$
Unit Price In Words			Dollars		
24	1.00	LS	Frameless sliding glass door system	$N/A	$
Unit Price In Words			Dollars		
25	1.00	LS	Aluminum storefront systems	$N/A	$
Unit Price In Words			Dollars		
26	1.00	LS	Aluminum storefront glazing – if not included above	$N/A	$
Unit Price In Words			Dollars		

27	1.00	LS	Door hardware for NEW renovated area– (15) Doors	$N/A	$
	Unit Price In Words		Dollars		
28	8.00	EA	Windows – horizontal sliding service windows	$	$
	Unit Price In Words		Dollars		
29	1.00	LS	Women's – (4) water closets and (4) lavs – plumbing scope	$N/A	$
	Unit Price In Words		Dollars		
30	1.00	LS	Men's – (2) water closets, (2) lavs, (2) urinals – plumbing scope	$N/A	$
	Unit Price In Words		Dollars		
31	4.00	EA	Drinking fountains - (2) double high/low with bottle filler – plumbing scope	$	$
	Unit Price In Words		Dollars		
32	500.00	LF	Wall insulation – acoustic batts	$	$
	Unit Price In Words		Dollars		
33	1.00	LS	MEP – relocating all electrical and mechanical fixtures and diffusers	$N/A	$
	Unit Price In Words		Dollars		
34	1.00	LS	New electrical fixtures and components	$N/A	$
	Unit Price In Words		Dollars		
35	1.00	LS	Front entry vestibule scope of work, exterior and interior	$N/A	$
	Unit Price In Words		Dollars		
36	1.00	LS	Contractor to provide a cost for added protection during construction while the building is being occupied	$N/A	$
TOTAL AMOUNT BID					**$**
	1.00	LS	**(ALTERNATE NO. 01)** Door hardware for EXISTING portion of City Hall– (77) Doors, Refer A410 Door Schedule	$N/A	$
	1.00	LS	**FF&E PACKAGE** Turnkey cost, see provided documents for drawings and manufacturer contacts	$N/A	$

Amounts are to be shown in both words and figures. In case of any discrepancy, the amount shown in words will govern.

The above unit prices shall include all costs for labor, materials, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of acceptance of this bid, Bidder will execute the formal Contract attached within ten (10) days and deliver all bonds as required by the General Conditions. The bid security attached in the sum of _____ DOLLARS ($_____) is to become the property of the Owner in the event the Contract and Bonds are not executed within the time set forth above, as liquidated damages for the delay and additional expense to the Owner caused thereby.

RESPECTFULLY SUBMITTED,

By: _____

Title: _____

Address: _____

_____

(AFFIX SEAL-if bid is by a corporation)

ANTICOLLUSION AFFIDAVIT

The following affidavit is submitted by Bidder as a part of this bid and proposal:

STATE OF OKLAHOMA}
CLEVELAND COUNTY}

The undersigned deponent, of lawful age, being duly sworn, upon his oath, deposes and says that:

- he has lawful authority to execute the within and foregoing proposal;
- he has executed the same by subscribing his name hereto under oath for and on behalf of said bidder;
- bidder has not, directly or indirectly, entered into an agreement; expressed or implied, with any bidder(s) having as its object controlling of the price or amount of such bid(s), the limiting of the bids or the bidders, the parceling or farming out to any bidder(s) or other persons of any part of the contract or any part of the subject matter of the bid(s) or of the profits thereof; and
- he has not and will not divulge the sealed bid to any person whomsoever, except those having a partnership or other financial interest with him in said bid(s) until after the said sealed bid(s) are opened.

Deponent further states that:

- the bidder has not been a party to any collusion among bidders or prospective bidders in any restraint of freedom of competition by agreement to bid at a fixed price, or to refrain from bidding;
- the bidder has not been a party to any collusion with any City official or employee as to quantity, quality, or price in the prospective contract, or any other terms of said prospective contract;
- the bidder has not been in any discussions between bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract;
- the bidder has not paid, given, or donated or agreed to pay, give, or donate to any officer or employee of the CITY OF MOORE any money or other thing of value, either directly or indirectly, in the procuring of the award of contract pursuant to this bid.

SIGNED: _____
(Name of Bidder)
BY: _____

Title: _____

Subscribed and sworn to before me this_____day of_____, 2025.

_____
Notary Public

My Commission Expires: _____

BUSINESS RELATIONSHIPS AFFIDAVIT

STATE OF OKLAHOMA}

CLEVELAND COUNTY}

_____, of lawful age, being first duly sworn, on oath says that he Is the agent authorized by the bidder to submit the attached bid. Affidavit further states that the nature of any partnership, joint venture, or other business relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, of other party to the project is as follows:

_____

_____

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

_____

_____

_____

Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

_____

_____

(If none of the business relationships hereinabove mentioned exist, affiant should so state.)

Signed:_____
By:_____
Title: _____

Subscribed and sworn to before me this_____day of_____, 2025.

_____
Notary Public

My Commission Expires:

_____

EXPERIENCE AND CAPABILITY QUESTIONNAIRE

_____, 2025

The Honorable Mayor and City Council
City of Moore
301 N. Broadway Street
Moore, Oklahoma 73160-5130

Gentlemen:

Re: **CITY OF MOORE CITY HALL RENOVATION No. 2025-010**

The following information is submitted in answer to the questions listed below:

1. How many years experience as a general contractor have you had in construction similar to the project upon which the attached proposal is submitted?

   _____

2. If you have constructed similar projects, list at least three contracts, giving name and location of each project, amount and date of contract, and the owner or agency for whom the work was performed (list only prime contracts).

   _____
   _____
   _____

3. What is the largest project you have ever undertaken as the Prime Contractor? Give location, amount, and date of contract, type of construction, etc.

   _____
   _____

4. Have you ever failed to complete a contract or been involved in litigation regarding the acceptance of final settlement for work performed?___ If the answer is "Yes", explain fully.

   _____

5. If you are the successful bidder on this project, do you propose to sublet or assign the project or any part thereof to some other contractor?

   _____

6. Is your organization an established business, with construction equipment and personnel ready to start work on this project if you are the successful bidder?

   _____

7. List all the projects that you have under contract this date, upon which final acceptance has not been made, giving the following information:

CONTRACT NO. 1
Name of Project _____
Owner_____Location_____
Amount of Contract_____Date of Contract _____
Time Allowed for Construction _____
Percent of Time Elapsed _____
Percent of Work Actually Accomplished _____
Has there been any litigation? _____
If answer to above question is "Yes", explain fully:
_____
_____
_____

CONTRACT NO. 2
Name of Project _____
Owner_____Location_____
Amount of Contract_____Date of Contract _____
Time Allowed for Construction _____
Percent of Time Elapsed _____
Percent of Work Actually Accomplished _____
Has there been any litigation? _____
If answer to above question is "Yes", explain fully:
_____
_____
_____

CONTRACT NO. 3
Name of Project _____
Owner_____Location_____
Amount of Contract_____Date of Contract _____
Time Allowed for Construction _____
Percent of Time Elapsed _____
Percent of Work Actually Accomplished _____
Has there been any litigation? _____
If answer to above question is "Yes", explain fully:
_____
_____
_____

CONTRACT NO. 4
Name of Project _____

Owner_____Location_____
Amount of Contract_____Date of Contract _____
Time Allowed for Construction _____
Percent of Time Elapsed _____
Percent of Work Actually Accomplished _____
Has there been any litigation? _____
If answer to above question is "Yes", explain fully:

_____

_____

(Attach additional sheets if required)

8. We submit the following list of major construction equipment now owned by us and available for the work that may be awarded, which is in operating condition and good state of repair.

No. Item Type Size or Capacity Present Value

_____

_____

_____
Firm Name

_____
Agent Signature

_____
Title

STATE OF OKLAHOMA }
COUNTY OF CLEVELAND }

_____, of legal age, being first duly sworn, upon his oath deposes and says that he executed the above questionnaire on behalf of the Bidder therein named; and that he had lawful authority to do so, and that the information contained therein is true and correct to the best of his knowledge and belief; that he has truthfully answered the questions set forth, and that he has not knowing withheld any information which might affect his status as bidder.

Subscribed and sworn to before me this_____day of_____, 2025.

_____
Notary Public

My Commission Expires: _____

CONTRACT

THIS CONTRACT made and entered into this __ day of_____, 2025, by and between CITY OF MOORE, Oklahoma, a Municipal Corporation, acting by and through the Mayor and City Council, party of the first part, hereinafter referred to as "CITY", and_____, party of the second part, hereinafter referred to as "CONTRACTOR".

W I T N E S S E T H:

WHEREAS, the CITY has caused to be prepared in accordance with law, certain Contract Documents and Technical Specifications (including Plans) for the work hereinafter described, and has caused a Solicitation for Bids to be given and advertised as required by law, and has received sealed proposals for the furnishing of all labor and materials for

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

and

WHEREAS, the Contractor in response to said Solicitation for Bids submitted to the CITY in the manner and at the time specified a sealed proposal in accordance with the terms and provisions of said Contract Documents and Technical Specifications, Plans and Addenda(s) associated with this project; and

WHEREAS, the CITY, in the manner provided by law, has publicly opened, examined, and canvassed all the proposals submitted and has determined and declared the above named Contractor to be the best responsive bidder on the above described project; and

WHEREAS, the City, has duly awarded this Contract to said Contractor for the sum specified in the Contractor's proposal, to wit:

_____ Dollars ($). Said proposal of_____is incorporated by reference into this contract.

NOW, THEREFORE, for and in consideration of the mutual agreements and covenants herein contained, the parties to this Contract have agreed, and hereby agree, as follows:

1. The Contractor shall, in a good and first-class workmanlike manner, at his own cost and expense, furnish all labor and materials, tools, and equipment required to perform and complete said work in strict accordance with this Contract, the Contract Documents and Technical Specifications and all applicable Plans and Addenda, all of which are on file in the office of the City Manager, 301 N. Broadway, Moore, OK, 73160-5130, and hereby incorporated by reference and made a part of this Contract as if the same were each herein set out at length.

2. The CITY will make progress payments to the Contractor no more than once per month upon request of the Contractor.

Such payment will be made on the basis of an agreed estimate of work performed since the previous pay request, provided that the Contractor and the City Manager shall have previously come to an agreement as to the amount of the request prior to submission.

The City shall retain five percent (5%) of the amount of each estimate until the project is complete. This retainage shall not be released until final acceptance of project by the City Council.

Each monthly estimate for payment must contain or have attached an affidavit for payment, as set forth in the Contract Documents and Technical Specifications.

On completion of the work, but prior to the acceptance by the CITY, it shall be the duty of the City Manager, or his authorized designee, to determine that said work has been completed and fully performed in accordance with said Contract Documents and Technical Specifications and all applicable Plans and Addenda; and upon making such determination said official shall make his final certificate to the CITY.

The Contractor hereby agrees to commence work under this Contract on a date to be specified in a written "Work Order" of the CITY and to fully complete the project within **ONE HUNDRED AND EIGHTY(180) consecutive calendar days**. The Contractor further agrees to pay as liquidated damages, the sum of **Eight Hundred Dollars and 00/100 ($800.00) for each consecutive calendar day** thereafter as provided in Paragraph 18 of the General Conditions section of the Contract Documents and Technical Specifications.

The Contractor shall furnish proof that all claims and obligations incurred by him in connection with the performance of said work have been fully paid and settled; said information shall be in the form of an affidavit constituting the Contractor's Release to City as set forth in the Contract Documents and Technical Specifications; thereupon, the final estimate (including any retained amounts) will be approved and paid.

3. Discrimination. The Contractor agrees in connection with the performance of work under this contract as follows:

    a. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, disability, age or ancestry. Such actions shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruiting or recruitment, advertising, layoff, termination, rates of pay or other forms of compensation, and selection for training, (including apprenticeship.) The Contractor agrees to include this non-discrimination clause in any subcontracts connected with the performance of this Contract.

b. The Contractor and subcontractor shall agree to post in a conspicuous place available to employees and applicants for employment, notice to be provided by the City Clerk of the City of Moore setting forth provisions of this section.

c. In the event of the Contractor's non-compliance with the above non-discrimination clause, this Contract may be terminated by the CITY. The Contractor may also be declared by the CITY to be ineligible for future contracts with the CITY until satisfactory proof of intent to comply shall be made by the Contractor.

4. Use of Subcontractors. The Contractor shall actively solicit bids for the subcontracting of goods or services from qualified minority businesses. At the request of the CITY, the Contractor shall furnish evidence of compliance with this requirement of minority solicitation. The Contractor further agrees to consider the grant of subcontracts to minority bidders on the basis of substantially equal proposals in the light most favorable to said minority businesses.

5. Entire Contract. This Contract and all the documents incorporated by reference contain the entire understanding and agreement of the parties upon the subject matter hereof. There is no agreement, oral or otherwise, which is not set forth in writing hereto or attached. This Contract includes the following items: this Contract, the Contract Documents and Technical Specifications, all applicable Plans and Addenda and the Contractor's Proposal.

6. Modification and Termination. This Contract cannot be modified or terminated except in writing signed by both parties or as otherwise provided herein.

7. Assignment. This Contract shall not be assigned without the written consent of the CITY.

8. Bankruptcy. If the Contractor becomes bankrupt or insolvent, or if a petition in bankruptcy is filed against the Contractor, or if a receiver is appointed for the Contractor, the CITY shall have the right to terminate this Contract upon written notice to the Contractor without prejudice to any claim for damages or any other right of the CITY under this Contract to the time of such termination.

9. Variables in Cost. The parties hereto assume and understand that the variables in Contractor's cost of performance may fluctuate; consequently, the parties hereto agree that any fluctuations in Contractor's costs will in no way alter the Contractor's obligations under this Contract nor excuse performance or delay on his part.

10. Choice of Laws and Venue. This Contract shall be governed by the laws of the State of Oklahoma. Any lawsuit brought concerning this Contract shall be filed with the appropriate state court, Cleveland County, Oklahoma or with the United States District Court for Western District of Oklahoma, as applicable.

11. This Contract requires proper signature and acceptance by the Contractor and approval by the Moore City Council before it becomes effective.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed, in three (3) originals, the day and year first above written.

(FOR CORPORATIONS ONLY)

_____
Name of Corporation

By _____

Title _____

ATTEST:

_____

Title _____
(AFFIX SEAL)

(FOR PARTNERSHIPS AND PROPRIETORSHIPS)

_____
Name of Partnership or Proprietorship
By _____
Title _____

COUNTY OF CLEVELAND }
STATE OF OKLAHOMA }

Before me the undersigned, a Notary Public in and for said state, on this_____day of _____, 2025, personally appeared_____, a member of the partnership/proprietorship_____to me known to be the identical person who executed the within and foregoing instrument on behalf of said partnership/proprietorship and acknowledged to me that_____(he/she) executed the same as_____(his/her) free and voluntary act and deed, and for the free and voluntary act and deed of said partnership/proprietorship, for the uses and purposes therein set forth.

_____
Notary Public

My Commission Expires_____

CITY OF MOORE, OKLAHOMA
A Municipal Corporation

_____
Glenn Lewis, MAYOR

ATTEST:

_____
Vanessa Kemp, CITY CLERK

APPROVED as to form and legality this_____day of_____, 2025.

_____
Randy Brink, CITY ATTORNEY

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that

_____ as Principal, and
(full name and address)

_____ as Surety, a
(full name and address)

corporation organized under the laws of the State of _____, and authorized to transact business in the State of Oklahoma, are hereby held and firmly bound unto the CITY OF MOORE, as OWNER, in the penal sum

of _____ DOLLARS ($_____) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, trustees, successors, and assigns, firmly by these presents.

The condition of this obligation is such that WHEREAS, said Principal entered into a written contract with the CITY OF MOORE, OKLAHOMA, dated on the _____ day of _____, 2025, for

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

all in compliance with the plans and specifications therefore, made a part of said Contract and on file in the Office of the City Clerk, City of Moore, City Hall, 212 SW 9th St, Moore, Oklahoma 73160-5130.

NOW, THEREFORE, if said Principal shall

(1) in all particulars, well, truly and faithfully perform and abide by said Contract, each and every covenant, and part thereof and shall fulfill all obligations resting upon said Principal by the terms of said Contract and said specifications; and
(2) if said Principal shall promptly pay, or cause to be paid, all labor, materials and/or repairs and all bills for labor performed on said work, whether by subcontract or otherwise.

then this obligation shall be null and void. **Otherwise** said obligation shall be and remain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alterations in said Contract and no deviations from the plan or mode or procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligation of this bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized to do so, the day and year above written.

Dated this_____day of_____, 2025.

Principal: Surety:

_____ _____
(Name of Contractor)

By:_____ By: _____
(Name & Title) Attorney-in-Fact (Affix Seal)

(FOR CORPORATIONS ONLY)

ATTEST:

_____
(Name & Title) (Affix Seal)

(FOR PARTNERSHIPS AND PROPRIETORSHIPS)

Notarized on this_____day of_____, 2025

Notary:_____My commission expires:
_____

STATUTORY BOND

KNOW ALL MEN BY THESE PRESENTS that

_____ as Principal, and
(full name and address)

_____ as Surety, a
(full name and address)

corporation organized under the laws of the State of _____, and authorized to transact business in the State of Oklahoma, are hereby held and firmly bound unto the CITY OF MOORE, as OWNER, in the penal sum of

_____ DOLLARS
($_____) in lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves and each of us, our heirs, executors, administrators, trustees, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that WHEREAS, said Principal entered into a written Contract with the CITY OF MOORE, OKLAHOMA, dated on the _____ day of _____, 2025, for

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

all in compliance with the plans and specifications therefore, made a part of said Contract and on file in the Office of the City Clerk, City Hall, 301 N. Broadway, Moore, Oklahoma 73160-5130.

NOW, THEREFORE, if said Principal shall fail or neglect to pay all indebtedness incurred by said Principal or subcontractors of said Principal who perform work in the performance of such contract, for labor and materials and repairs to and parts for equipment used and consumed in the performance of said Contract within thirty (30) days after the same becomes due and payable, the person, firm, or corporation entitled thereto may sue and recover on this bond, the amount so due and unpaid. It is further expressly agreed and understood by the parties hereto that no changes or alterations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of this bond.

IN WITNESS WHEREOF, said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the year and day first above written.

Dated this_____day of_____, 2025.

Principal: Surety:

_____ _____
(Name of Contractor)

By:_____ By: _____
(Name & Title) Attorney-in-Fact (Affix Seal)

(FOR CORPORATIONS ONLY)

ATTEST:

_____
(Name & Title) (Affix Seal)

(FOR PARTNERSHIPS AND PROPRIETORSHIPS)

Notarized on this_____day of_____, 2025

Notary:_____My commission expires: _____

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS that

_____ as Principal, and
(full name and address)

_____ as Surety, a
(full name and address)

corporation organized under the laws of the State of _____, and authorized to transact business in the State of Oklahoma, are hereby held and firmly bound unto the CITY OF MOORE, as OWNER, in the penal sum of

_____ DOLLARS
($_____) in lawful money of the United States of America, said sum being equal to One Hundred Percent (100%) of the Contract price, for two (2) years after completion and acceptance of the project, payment of which, well and truly to be made, we bind ourselves and each of us, our heirs, executors, administrators, trustees, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that WHEREAS, said Principal entered into a written contract with the CITY OF MOORE, OKLAHOMA, dated on the _____ day of _____, 2025, for

CITY OF MOORE CITY HALL RENOVATION No. 2025-010

all in compliance with the plans and specifications therefore, made a part of this contract and file in the Office of the City Clerk of the City of Moore, City Hall, 301 N. Broadway, Moore, Oklahoma, 73160-5130.

NOW, THEREFORE, if said Principal shall pay or cause to be paid to the CITY OF MOORE, OKLAHOMA all damage, loss and expense which may result by reason of defective materials and/or workmanship in connection with said work for a period of TWO (2) years, from and after acceptance of said project by the CITY OF MOORE and if Principal shall pay or cause to be paid all labor and materials, including the prime contractor and all subcontractors; and if Principal shall save and hold the CITY OF MOORE harmless from any failure whatsoever of said Principal, then this obligation shall be null and void, otherwise to be and remain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alterations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of the bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the surety

has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized to do so, the day and year first above written.

Dated this_____day of_____, 2025.

Principal: Surety:

_____ _____
(Name of Contractor)

By:_____ By: _____
(Name & Title) Attorney-in-Fact (Affix Seal)

(FOR CORPORATIONS ONLY)

ATTEST:

_____
(Name & Title) (Affix Seal)

(FOR PARTNERSHIPS AND PROPRIETORSHIPS)

Notarized on this_____day of_____, 2025

Notary:_____My commission expires: _____

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CITY OF MOORE

GENERAL CONDITIONS

1. Contract and Contract Documents

The Plans, Specifications, and Addenda shall form part of this Contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light on the interpretation of the provisions to which they refer.

2. Definitions

The following terms as used in this contract are respectively defined as follows:

a. "Contractor": A person, firm or corporation with whom the contract is made by the Owner.

b. "Subcontractor": A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, and under separate contract or agreements with, the Contractor.

c. "Work on (at) the project": Work to be performed at the location of the project, including the transportation of materials and supplies to or from the location of the project by employees of the Contractor or any Subcontractor.

d. "Engineer": The term engineer shall apply to the City Manager or his duly designated representative, to include consultants hired by the Owner to provide advice, assistance or direction concerning the contract.

e. "Owner": The term Owner shall apply to the City of Moore, A Municipal Corporation, also referred to as the "CITY."

3. Additional Instructions and Detail Drawings

The Contractor will be furnished additional instructions and detailed drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the Contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Engineer will prepare jointly: (a) a schedule, fixing the dates at which special detail drawings will be required; such drawings, if any, to be furnished by the Engineer in accordance with said scheduled; and (b) a schedule fixing the respective dates for

the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment, and the completion of the various parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of the work.

4. Shop or Setting Drawings

The Contractor shall submit promptly to the Engineer six copies of each shop or setting drawing prepared in accordance with the schedule predetermined as aforesaid. After examination of such drawings by the Engineer and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Engineer with two corrected copies. If requested by the Engineer, the Contractor must furnish additional copies. Regardless of corrections made in or approval given to such drawings by the Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings and for their conformity to the Plans and Specifications, unless he notifies the Engineer in writing of any deviations at the time he furnishes such drawings.

5. Materials, Services, and Facilities

a. It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

b. Any work necessary to be performed after regular hours, on Sundays or Legal Holidays, shall be performed without additional expense to the Owner.

6. Contractor's Title to Materials

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract, or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

7. Inspection and Testing of Materials

a. All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. The Owner will pay for all laboratory inspection service direct, and not as a part of the contract.

b. Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

8. "Or Equal" Clause

Whenever a material, article, or piece of equipment is identified on the plans or in the specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., it is intended merely to establish a standard. Any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Engineer, of equal substance and function. The proposed substitution shall not be purchased or installed by the contractor without the Engineer's written approval.

9. Patents

a. The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

b. License or Royalty Fees. License and/or royalty fees for the use of a process that is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized licensee, direct by the Owner and not by or through the Contractor.

c. If the Contractor uses any design, device or materials covered by letters, patents or copyrights, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood, that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

10. Surveys, Permits, and Regulations

a. Unless otherwise expressly provided for in the Specifications, the Contractor shall be responsible for all surveying and construction staking for the project and the Owner

shall furnish to the Contractor all survey control points necessary as indicated in project drawings.

b. The Contractor shall procure and pay all permits, licenses and approvals necessary for the execution of his contract.

c. The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to performance of the work, the protection of adjacent property, and the maintenance of passageways, guard fences or other protective facilities.

11. Contractor's Obligations

a. The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings covered by this contract any and all supplemental plans and drawings. He shall furnish, erect, maintain, and remove such construction plant and such temporary works as may be required.

b. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Architect/Engineer and the Owner.

12. Weather Conditions

In the event of suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect his work, such materials shall be removed and replaced at the expense of the Contractor.

13. Protection of Work and Property- (Emergency)

a. The Contractor shall at all times safely guard the Owner's property from damage in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract or by the Owner, or his duly authorized representatives.

b. In case of emergency which threatens loss or injury of property, and/or safety of life the Contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner. He shall notify the Engineer immediately thereafter.

Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for approval.

c. Where the Contractor has not taken action but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Engineer.

d. The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in Paragraph 22 of the General Conditions.

14. Inspection

The authorized representatives and agents of the Owner shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

15. Reports, Records, and Data

The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this Contract.

16. Superintendence by Contractor

At the site of the work, the Contractor shall employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

17. Extras

Without invalidating the contract, the Owner may order extra work or make changes by altering, adding to or deducting from the work, the contract sum being adjusted accordingly, and the consent of the Surety being first obtained where necessary or desirable. All the work of the kind bid upon shall be paid for at the price stipulated in the proposal; and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the Owner and the price is stated in such order.

18. Time for Completion and Liquidated Damages

a. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed".

b. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of the same; taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

c. If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor hereby agrees, as a part consideration for the awarding of this contract, to pay to the Owner the amount specified in the contract, **not as a penalty but as liquidated damages for such breach of contract** as hereinafter set forth, for each and every consecutive calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work.

d. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain; and said amount is agreed to be the amount of the damages which the Owner would sustain and shall be retained from time to time by the Owner from current periodical estimates.

e. It is agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever. Where, under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract.

f. The Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner.

g. The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to:

(1) To any preference, priority, or allocation order duly issued by the Owner;

(2) To unforeseeable cause beyond the control and without the fault or the negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather occurring prior to the original completion date. Except that in the case of severe weather the original completion date as set out in the contract shall be adjusted for severe weather occurring prior to the date originally specified in the contract as the date on which all work pursuant the

terms of the contract is to be completed. The revised date, adjusted as described, will be known as the adjusted completion date. There shall be no further adjustment or adjustments to the adjusted completion date, for any reason, once the adjusted completion date has been determined. All conditions of the contract must be satisfied by the Contractor on or before the original completion date or adjusted completion date, which ever is applicable. If all contract requirements have not been met by the original completion date or adjusted completion date, if applicable, liquidated damages, regardless of weather conditions, shall apply for all subsequent days until the actual completion of the contract terms by the contractor.

(3) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (1) and (2) of this article.

h. Provided, that the Contractor shall, within ten (10) days from the beginning of delay as set forth in (g) above, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner, in writing, of the causes of delay. The Owner shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

19. Correction of Work

All work, materials, (whether incorporated in the work or not), all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Engineer who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture, and methods of construction for the purposes for which they are used. Should they fail to meet his approval, they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor at his own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the Engineer, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract Documents, payment to be paid to the Contractor hereunder shall be reduced by such amount as in the judgment of the Engineer shall be equitable.

20. Subsurface Conditions Found Different

Should the Contractor encounter subsurface and/or latent conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed. The Engineer will thereupon promptly investigate the conditions, and if he finds that they materially differ from those shown on the Plans or indicated in the Specifications, he will at once make such changes in the Plans and/or Specifications as he may find necessary. Any increase or decrease of cost resulting from such changes shall be adjusted in the manner provided in Paragraph 22 of the General Conditions.

21. Claims for Extra Cost

No claim for extra costs or cost shall be allowed unless the same was done in pursuance of a written order of the Engineer approved by the Owner, as aforesaid, and the claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms of subparagraph 22(b) of the General Conditions, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and when requested by the Owner, give the Owner access to accounts relating thereto.

22. Changes in Work

No changes in the work covered by the approved Contract Documents shall be made without having prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:

a. Unit bid prices previously approved.

b. The actual cost of:

(1) Labor, including foreman,
(2) Materials entering permanently into the work,
(3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work,
(4) Power and consumable supplies for the operation of power equipment,
(5) Insurance,
(6) Social Security and old age and unemployment contributions.

To the cost under b., there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of the work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

23. Right of Owner to Terminate Contract

In the event that any of the provisions of this contract are violated by the Contractor, or by any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminate the contract. Such notices shall contain the reasons for such intention to terminate the contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement of correction be made, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor; and the Surety shall have the right to take over and perform the contract. If the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work and prosecute the same to completion by contract at the expense of the Contractor. The Contractor and his Surety shall be liable to the Owner for any

excess cost occasioned the Owner thereby; and in such event, the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

24. Construction Schedule and Periodic Estimates

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner as estimated construction progress schedule in form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule. The Contractor shall also furnish on forms to be supplied by the Owner, (a) a detailed estimate giving a complete breakdown of the contract price, and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

25. Payments to Contractor

a. At the request of the Contractor and no more than once per month, the Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this contract. To ensure the proper performance of this contract, the City shall retain 5% of the amount of each estimate. On completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made in full, including retained percentages thereon, less authorized deductions.

b. In preparing estimates, the material delivered on the site and preparatory work done may be taken into consideration.

c. All material and work covered by partial payments made shall thereupon become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all the terms of the contract.

d. The Owner reserves the right to withhold certain amounts and make application thereof. Specifically, the Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all

obligations of the nature hereinabove designated have been paid, discharged, or waived. If the Contractor fails to do so, then the Owner may, after having served written notice on the said Contractor, pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of this contract. In no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor or his Surety. In paying any unpaid bills of the Contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner shall be considered as a payment made under the contract by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

26. Acceptance of Final Payment Constitutes Release

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and other relating to or arising out of this work. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this contract or the Performance and Payment Bond.

27. Payments by Contractor

The Contractor shall pay,

a. for all transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered,

b. for all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of the cost thereof, not later than the 20th day of the calendar month following that in which said materials, tools, equipment are delivered at the site of the project, and the balance of the cost thereof, not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and

c. to each of his subcontractors, not later than the 5th day following each payment to the Contractor the respective amounts allowed the Contractor on account of the work performed by his subcontractors to the extent of each subcontractor's interest therein.

28. Insurance

The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until the insurance required of the subcontractor has been so obtained and approved.

a. Worker’s Compensation Insurance. The Contractor shall procure and shall maintain during the life of this contract Worker's Compensation Insurance as required by the State of Oklahoma for all of his employees to be engaged in work at the site of the project under this contract, and in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter’s employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this contract is not protected under the Worker's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.

b. Contractor's General Liability and Property Damage Insurance and Vehicle Liability Insurance. The Contractor shall procure and shall maintain during the life of this contract, Contractor's General Liability Insurance, Contractor's Property Damage Insurance, and Vehicle Liability Insurance as follows:

Comprehensive General Liability and Bodily Injury:	
Bodily Injury	$ 125,000.00 per person per occurrence
Property Damage	$ 100,000.00 each occurrence
Combined Single Limit	$1,000,000.00 per occurrence combined limit
Comprehensive Automobile:	
Liability, Bodily Injury	$ 125,000.00 per person per occurrence
Property Damage	$ 100,000.00 each occurrence
Combined Limit	$1,000,000.00 per occurrence combined limit

c. Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance. The Contractor shall either,

(1) require each of his subcontractors to procure, and to maintain during the life of his subcontract, Subcontractor's Public Liability Insurance of the type and in the amounts specified in subparagraph (b) hereof, or

(2) ensure the activities of his subcontractors in his own policy, specified in subparagraph (b) hereof.

d. Scope of Insurance and Special Hazards. The insurance required under subparagraphs b. and c. hereof shall provide adequate protection for the Contractor and his subcontractors, respectively, against damage claims which may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him, and also against any of the special hazards which may be encountered in the performance of this contract.

e. Builder's Risk Insurance (Fire and Extended Coverage). Until the project is completed and accepted by the Owner, the Contractor (at the Owner's option) is required to maintain Builder's Risk Insurance (fire and extended coverage) on a one hundred percent (100%) completed value basis on the insurable portion of the project for the benefit of the Owner, the Contractor, and subcontractors as their interests may appear. This provision shall not release the Contractor from his obligation to complete, according to the plans and specifications, the project covered by the contract, and the Contractor and his Surety shall be obligated to full performance of the Contractor's undertaking.

f. Proof of Carriage of Insurance. The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certification will not be canceled or materially altered, except after ten (10) days written notice has been received by the Owner."

29. Contract Security

The Contractor shall furnish a Performance Bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the faithful performance of this contract and also a Statutory Bond in an amount not less than one hundred percent (100%) of the contract price or in a penal sum not less than that prescribed by State, territorial or local law, as security for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract. The Performance Bond and the Statutory Bond may be in one or in separate instruments in accordance with local law.

30. Additional or Substitute Bond

If at any time the Owner for justifiable cause shall become dissatisfied with any surety or sureties, then upon the Performance or Statutory Bonds, the Contractor shall within five (5) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the Owner.

31. Assignments

The Contractor shall not assign the whole or any part of this contractor or any moneys due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any monies due or to become due under this contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this contract.

32. Mutual Responsibility of Contractors

If, through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement or arbitration if such other Contractor or subcontractors will so settle. If such other Contractor or subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claim.

33. Separate Contract

The Contractor shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The Contractor, including his subcontractors, shall keep informed of the progress and the detail work of other Contractors and shall notify the Engineer immediately of lack of progress or defective workmanship on the part of other Contractors. Failure of a Contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with his own work.

34. Subcontracting

a. The Contractor may utilize the services of specialty subcontractors on those parts of the work that, under normal contracting practices, is performed by specialty subcontractors.

b. The Contractor shall not award any work to any subcontractor without prior written approval of the Owner. Approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Owner may require.

c. The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions or persons directly employed by him.

d. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and other contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of the contract documents.

e. Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

35. Engineer's Authority

a. The Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such questions.

b. The Engineer shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute. Any differences or conflicts in regard to their work that may arise between the Contractor under this contract and other contractors performing work for the Owner shall be adjusted and determined by the Engineer. Any work performed on areas which have been identified as obscure or in dispute but for which a determination has not been made by the Engineer, shall be at the sole risk of the Contractor.

36. Use of Premises and Removal of Debris

The Contractor expressly undertakes at his own expense:

a. to take every precaution against injuries to persons or damage to property;

b. to store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractors;

c. to place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work;

d. to frequently clean up all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;

e. before final payment to remove all surplus material, false-work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat orderly condition;

f. to effect all cutting, fitting or patching of his work required to make the same to conform to the plans and specifications and, except with the consent of the Engineer, not to cut or otherwise alter the work of any other Contractor.

37. Quantities of Estimate

Wherever the estimated quantities of work to be done and materials to be furnished under this contract are shown in any of the documents including the proposal, they are given for use in comparing bids and the right is especially reserved as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this contract, and such increase or diminution shall in no way vitiate this contract, nor shall any such increase or diminution give cause for claims or liability for damages.

38. Lands and Rights-of-Way

Prior to the start of construction, the Owner shall obtain all lands and rights-of-way necessary for the carrying out and completion of work to be performed under this contract.

39. General Guaranty

Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Owner, shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

40. Conflicts, Measurements and Discrepancies

a. Before undertaking each part of the work, the Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The Contractor shall promptly report in writing to Engineer any conflict, error or discrepancy which the Contractor may discover and shall obtain a written interpretation or clarification from the Engineer before proceeding with any work affected thereby; however, the Contractor shall not be liable to the Owner or Engineer for failure to report any conflict, error or discrepancy in the Contract Documents, unless the Contractor had actual knowledge thereof or should reasonably have known thereof.

b. Any work performed which is governed by conflicting details, dimensions, or specifications and is performed without clarification by the Engineer shall be at the sole risk of the Contractor.

c. No extra charge or compensation in excess of actual quantities required will be allowed because of differences between actual dimensions and the dimensions shown on the drawings.

41. Notice and Service Thereof

Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the said Contractor at his last given address, or delivered in person to said Contractor or his authorized representative on the work.

42. Provisions Required by Law Deemed Inserted

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein. If, through mistake or otherwise any such provision is not inserted or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

43. Protection of Lives and Health

The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and health regulations described in Chapter XIII, Bureau of Labor Standards, Department of Labor, Safety and Health Regulations for Construction, shall be observed and the Contractor shall take or cause to be taken, such additional safety and health measures as the Owner may determine to be reasonably necessary.

44. Subcontracts

The Contractor will insert in any subcontracts, any Federal Labor Standards Provisions which may be contained herein and such other clauses as the Owner and the Department of Housing and Urban Development may, by instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

45. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

a. The Contractor will not discriminate against any employee or applicant for employment because or race, religion, sex, color, disability, age or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion,

sex, color, age or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, (including apprenticeship). The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided of this nondiscrimination clause.

b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, sex, color, disability, age or national origin.

c. The Contractor will send to each labor union or representative or workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

e. The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department of Housing and Urban Development and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

f. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be terminated or suspended in whole or in part and the Contractor may be declared ineligible for further CITY contracts or Federally-assisted construction contracts, in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 or September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

g. The Contractor will include the provisions of paragraph (a) through (f) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Department of Housing and Urban Development may direct as means of enforcing such provisions including sanctions for noncompliance; provided,

however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department of Housing and Urban Development, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

46. Prohibited Interests

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

47. Use and Occupancy Prior to Acceptance by Owner

The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Owner, provided the Owner:

a. Secures written consent of the Contractor except in the event, in the opinion of the Engineer, the Contractor is chargeable with unwarranted delay in final clean-up of punch list items or other contract requirements, and

b. Secures endorsement from the insurance carrier and consent of the surety permitting occupancy of the building or use of the project during the remaining period of construction, or,

c. When the project consists of more than one building, and one of the buildings is occupied, secures permanent fire and extended coverage insurance, including a permit to complete construction. Consent of the surety must also be obtained.

48. Photographs of the Project

If required by the Owner, the Contractor shall furnish photographs of the project, in the quantities and as described in the Special Provisions.

49. Suspension of Work

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason

of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

50. Labor Provisions

a. Minimum Wages

All laborers and mechanics employed upon the work covered by this Contract shall be paid unconditionally and not less often than once each week, and without subsequent deduction or rebate of any account (except such payroll deductions as are made mandatory by law and such other payroll deductions as are permitted by the applicable regulations issued by the Secretary of Labor, United States Department of Labor, pursuant to the Anti-Kickback Act hereinafter identified), the full amount due at time of payment computed at wage rates not less than those contained in the wage determination decision of said Secretary of Labor (a copy of which is attached and herein incorporated by reference),regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such laborers and mechanics. All laborers and mechanics employed upon such work shall be paid in cash, except that payment may be by check if the employer provides or secures satisfactory facilities approved by the Owner for the cashing of the same without cost or expense to the employee. For the purpose of this clause, contributions made or costs reasonably anticipated under Section 1 (b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section 5.5(a)(1)(iv) of Title 29, Code of Federal Regulations. Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds, or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

b. Underpayment of Wages or Salaries

In case of underpayment of wages by the Contractor or by any subcontractors to laborers or mechanics employed by the Contractor or subcontractor upon the work covered by this Contract, the Owner in addition to such other rights as may be afforded it under this Contractor, shall withhold from the Contractor, out of any payments due the Contractor, so much thereof as the Owner may consider necessary to pay such laborers or mechanics the full amount of wages required by this Contract. The amount so withheld may be disbursed by the Owner, for and on account of the Contractor or the subcontractor (as may be appropriate), to the respective laborers or mechanics to whom the same is due or on their behalf prescribed in the applicable wage determination.

c. Anticipated Costs of Fringe Benefits

If the Contractor does not make payments to a trustee or other third person, he may consider as part of the wages of any laborer or mechanic the amount of any costs

reasonably anticipated in providing fringe benefits under a plan or program of a type expressly listed in the wage determination decision of the Secretary of Labor which is part of this Contract; provided, however, the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. A copy of findings made by the Secretary of Labor in respect to fringe benefits being provided by the Contractor must be submitted to the Owner with the first payroll filed by the Contractor subsequent to receipt of the findings.

d. Overtime Compensation Required by Contract Works Hours and Safety Standards Act (76 Stat. 357-360: Title 40 U.S.C., Sections 327-332).
   (1) Overtime Requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, which he is employed on such work to work in excess of 40 hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of 40 hours in such work week.

   (2) Violation/Liability for Unpaid Wages Liquidated Damages. In the event of any violation of the clause set forth in paragraph (1), the Contractor and any sub contractor responsible therefore shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violations of the clause set forth in paragraph (1), in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in paragraph (1).
   (3) Withholding for Liquidated Damages. The Owner shall withhold or cause to be withheld, from any monies payment on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for liquidated damages as provided the clause set forth in paragraph (2).

   (4) Subcontracts. The Contractor shall insert in any subcontracts the clauses set forth in paragraphs (1), (2), and (3) of this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontractors which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

e. Employment of Apprentices/Trainees
   (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed and individually registered in a bona fide apprenticeship program registered with the

U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in subdivision (2) of this subparagraph or is not registered or otherwise employed as stated above, shall be paid the wage rates determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or subcontractor will be required to furnish to the contracting officer or a representative of the Wage-Hour Division of the U.S. Department of Labor written evidence of the registration of his program and apprentices as well as the appropriate ratios and wage rates (expressed in percentages of the journeyman hourly rates), for the areas of construction prior to using any apprentices on the contract work. The wage rate paid apprentices shall be not less than the appropriate percentage of the journeyman's rate contained in the applicable wage determination.

(2) Trainees. Except as provided in 29 CFR 5.15, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidence by formal certification, by the U.S. Department of Labor, Manpower Administration, Bureau of Apprentice and Training. The ratio of trainees to journeymen shall not be greater than permitted under the plan approved by the Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Bureau of Apprenticeship and Training shall be paid not less than the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or subcontractor will be required to furnish the contracting officer or a representative of the Wage-Hour Division of the U.S. Department of Labor written evidence of the certification of his program, the registration of the trainees, and the ratios and wage rates prescribed in that program. In the event the Bureau of Apprenticeship and Training withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment

opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

f. Employment of Certain Persons Prohibited

No person under the age of sixteen or no person who, at the time, is serving sentence in a penal or correctional institution shall be employed on the work covered by this Contract.

g. Regulations Pursuant to So-Called "Anti-Kickback Act"

The Contractor shall comply with the applicable regulations (a copy of which is attached and herein incorporated by reference) of the Secretary of Labor, United States Department of Labor, made pursuant to the so-called "Anti-Kickback Act" of June 13, 1934 (48 Stat. 948: 62 Stat. 862; Title 18 U.S.C., Section 874; and Title 40 U.S.C., Section 276c), and any amendments or modifications thereof, shall cause appropriate provisions to be inserted in subcontracts to insure compliance therewith by all subcontractors subject thereto, and shall be responsible for the submission of affidavits required by subcontractors thereunder, except as said Secretary of labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions from the requirement thereof.

h. Employment of Laborers or Mechanics Not Listed in Aforesaid Wage Determination Decision

Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the Contract will be classified or reclassified comfortably to the wage determination by the Owner, and a report of the action taken shall be submitted by the Owner, through the Secretary of Housing and Urban Development, to the Secretary of Labor, United States Department of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the Owner shall be referred, through the Secretary of Housing and Urban Development, to the Secretary of Labor for final determination.

i. Fringe Benefits Not Expressed as Hourly Wages Rates

The Owner shall require, whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly wage rate and the Contractor is obligated to pay cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon a cash equivalent of the fringe benefit, the questions, accompanied by the recommendation of the Owner, shall be referred, through the Secretary of Housing and Urban Development, to the Secretary of Labor for determination.

j. Posting Wage Determination Decisions and Authorized Wage Deductions

The applicable wage poster of the Secretary of Labor, United States Department of Labor, and the applicable wage determination decisions of said Secretary of Labor with respect to the various classification of laborers and mechanics employed and to be employed upon the work covered by this Contract, and a statement showing all deductions, if any, in accordance with the provisions of this Contract, to be made from wages actually earned by persons so employed or to be employed in such classifications, shall be posted at appropriate conspicuous points at the site of the work.

k. Complaints, Proceedings, or Testimony by Employees

No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contractor to his employer.

l. Claims and Disputes Pertaining to Wages

Claims and disputes pertaining to wage rates or to classifications of laborers and mechanics employed upon the work covered by this Contractor shall be promptly reported by the Contractor in writing to the Owner for referral by the latter through the Secretary of Housing and Urban Development to the Secretary of Labor, United States Department of Labor, whose decision shall be final with respect thereto.

m. Questions Concerning Certain Federal Statutes and Regulations

All questions arising under this Contract which relate to the application or interpretation of (a) the aforesaid Anti-Kickback Act, (b) the Contract Work Hours and Safety Standards Act, (c) the aforesaid Davis-Bacon Act, (d) the regulations issued by the Secretary of Labor, United States Department of Labor, pursuant to said Acts, or (e) the labor standards provisions of any other pertinent Federal statute, shall be referred, through the Owner and the Secretary of Housing and Urban Development, to the Secretary of Labor, United States Department of Labor, for said Secretary's appropriate ruling or interpretation which shall be authoritative and may be relied upon for the purposes of this Contract.

n. Payrolls and Basic Payroll Records of Contractor and Subcontractors

The Contractor and each subcontractor shall prepare his payroll on forms satisfactory to and in accordance with instructions to be furnished by the Owner. The Contractor shall submit weekly to the Local Public Agency or Public Body two certified copies

of all payrolls of the Contractor and of the subcontractors, it being understood that the Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. Each such payroll shall contain the "Weekly Statement of Compliance" set forth in Section 3.3 of Title 29, Code of Federal Regulations. The payrolls and basic payroll records of the Contractor and each subcontractor covering all laborers and mechanics employed upon the work covered by this Contract shall be maintained during the course of the work and preserved for a period of three (3) years thereafter. Such payroll and basic payroll records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions or costs anticipated of the types described in Section l(b)(2) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. In addition, whenever the Secretary of Labor has found under Section 5.5(a)(1)(iv) of Title 29, Code of Federal Regulations, that the wages of any laborer or mechanic includes the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section l(b)(2)(B) of the Davis Bacon Act, the Contractor or subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. The Contractor and each subcontractor shall make his employment records with respect to persons employed by him upon the work covered by this Contract available for inspection by authorized representatives of the Secretary of Housing and Urban Development, the Owner, and the United States Department of Labor. Such representative shall be permitted to interview employees of the Contractor or of any subcontractor during working hours on the job.

o. Specific Coverage of Certain Types of Work by Employees

The transporting of materials and supplies to or from the site of the Project to which this Contract pertains by the employees of the Contractor or of any subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the Project to which this Contract pertains by persons employed by the Contractor or by any subcontractor, shall, for the purposes of this Contract, and without limiting the generality of the foregoing provisions of this Contract, be deemed to be work to which these, Federal Labor Standards Provisions are applicable.

p. Provisions to be Included in Certain Subcontracts

The Contractor shall include or cause to be included in each subcontract covering any of the work covered by this Contract, provisions which are consistent with any Labor Standards Provisions, included herein and also a clause requiring the subcontractors to include such provisions in any lower tier subcontracts which they may enter into, together with a clause requiring such insertion in any further subcontracts that may in turn be made.

q. Ineligible Subcontractors

The Contractor shall not subcontract any part of the work covered by this Contract or permit subcontracted work to be further subcontracted without the Owner's prior written approval of the subcontractor. The Owner will not approve any subcontractor for work covered by this Contract who is at the time ineligible under the provisions of any applicable regulations issued by the Secretary of Labor, United States Department of labor or the Secretary of Housing and Urban Development, to receive an award of such subcontract.

(1) Breach of Foregoing Federal Labor Standards Provisions

In addition to the clauses for termination of this Contract as herein elsewhere set forth, the Owner reserves the right to terminate this Contract if the Contractor or any subcontractor whose subcontract covers any of the work covered by this Contract shall breach any of these Federal Labor Standards Provisions. A breach of these Federal Labor Standards Provisions may also be grounds for debarment as provided by the applicable regulations issued by the Secretary of Labor, United States Department of Labor.

r. Employment Practices

The Contractor shall, to the greatest extent practicable, follow hiring and employment practices for work on the project that will provide new job opportunities for the unemployed and underemployed. This clause shall be inserted in each construction subcontract.

s. Contract Termination; Debarment

A breach of Section 45 and the Federal Labor Standards Provisions may be grounds for termination of the Contractor, and for debarment as provided in 29 CFR 5.6.

51. Sales Tax Exemption

Pursuant to Oklahoma Statutes, Title 68, 1356(10), Contractors and Subcontractors shall be exempted from the tax levied on the sale of tangible personal property or services necessary for the completion of this construction contract. Any Contractor or Subcontractor making purchases for this contract on behalf of the City of Moore shall certify, in writing, on the copy of the invoice or sales ticket to be retained by the vendor, that the purchases are made for and on behalf of the City of Moore.

Contractors and Subcontractors shall request a written Sales Tax Exemption by contacting the Engineering Division, City of Moore, at 212 S.W. 9th Street, Moore, Oklahoma, 73160-5130 (405.793.5020) who will issue such exemption on an individual project basis. It shall be the Contractor's and Subcontractor's responsibility to secure the

Sales Tax Exemption and failure to do so will not lessen their liability for payment of the sales tax.

Until the City of Moore accepts the improvements, purchases for carrying out the contract for construction of this project shall be exempt from sales taxes as provided in the cited statute. Two Tax Commission interpretations of the Oklahoma statutes Title 68 Sec 1356(I0) are listed below to avoid contention among the City of Moore, its contractors, and the Tax Commission.

"Exemptions apply to materials incorporated into the project, but not to concrete forms nor to other tools"

"The same reasoning precludes exemptions being applied to rental items"

The Contractor shall certify that purchases are made for or are on behalf of the City of Moore. Persons who make wrongful or erroneous certifications) shall be guilty of a misdemeanor and shall be punished as provided in the statutes.

52. Special Equal Opportunity Provisions

a. Activities and Contracts Not Subject to Executive Order 11246, as Amended.

(Applicable to Federally assisted construction contracts and related subcontracts under $10,000.)

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection of training, including apprenticeship.

(2) The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this nondiscrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) Contractors shall incorporate foregoing requirements in all subcontracts.

b. Contracts Subject to Executive Order 11246, as Amended.

(Applicable to Federally assisted construction contracts and related subcontracts exceeding $10,000.)

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of thins nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The Contractor shall send to each labor union or representatives of works with which he has a collective bargaining agreement or other contract or understanding, notice to be provided by the Contract Compliance Officer advising the said labor union or worker's representatives of the Contractor's commitment under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract, or with any of such rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contract procedures authorized in Executive Order 11246, of September 24, 1965, or by rule, regulation, order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding Paragraph (1) and the provisions of Paragraph (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

c. "Section 3 Compliance in the Provision of Training, Employment and Business Opportunities.

During the performance of this contract, the contractor agrees as follows:

(1) The Contractor agrees to comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701 u.), as amended, the HUD regulations issued pursuant thereto at 24 CFR Part 135, and any applicable rules and orders of HUD issued thereunder.

(2) The "Section 3 clause" set forth in 24 CFR 135.20(b) shall form part of this contract, as set forth in Paragraph 1 of the General Conditions, "Contract and Contract Documents".

(3) Contractor shall incorporate the "Section 3 clause" shown below and the foregoing requirements in all subcontracts.

Section 3 Clause as Set Forth in CFR 135.20(b)

i. The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns that are located in, or owned in substantial part by persons residing in the area of the project.

ii. The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR 135.20, and all applicable rules and orders of the Department issued thereunder prior to the

execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability that would prevent them from complying with these requirements.

iii. The Contractor will send to each labor organization or representative of workers with whom he has a collective bargaining agreement or other contract or understanding. If any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

iv. The Contractor will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR 135.20. The Contractor will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR 135.20 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

v. Compliance with the provisions of Section 3, the regulations set forth in 24 CFR 135.20, and all applicable rules and regulations of the Department issued thereunder prior to the execution of the contract shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance. Failure to fulfill these requirements shall subject the applicant or recipient, its contractor and subcontractors, its successors, and assigns to these sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and to such sanctions as are specified by 24 CFR 135.20.

53. Certification of Compliance with Air and Water Acts

(Applicable to Federally assisted construction contracts and related subcontracts exceeding $100,000.)

Compliance with Air and Water Acts

During the performance of this contract, the contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et. seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et. seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 14, as amended.

In addition to the foregoing instruments, all nonexempt contractors and subcontractors shall furnish to the Owner, the following:

a. A stipulation by the contractor or subcontractor, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.

b. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended (33 USC 1318) relating to inspection, monitoring, entry reports and information, as will as all other requirements specified in said Section 114 and Section 308, and all requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

c. A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility, utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.

d. Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in Paragraph (1) through (4) of this section in every non exempt subcontract and requiring that the Contractor will take such action as the Government may direct as a means of enforcing such provisions.

54. Employment of Handicapped Persons

Where possible, employment of handicapped persons is encouraged.

55. Employment of Female Persons

Where possible, employment of female persons is encouraged.

56. Employment of Veterans

The contractor agrees to provide certification that special consideration with existing applicable collective bargaining agreements and practices, shall be given to the employment on the project of qualified disabled veterans as defined in 38 USC 2011(1), and to qualified Vietnam-era veterans, as defined in 38 USC 2011(2)(A).

WORK ORDER

TO: _____

From: City of Moore

Re: **CITY OF MOORE CITY HALL RENOVATION No. 2025-010**

Date: _____

You are hereby notified that all contract documents have been entered and accepted in relation to the contract entered into on the ____ day of _____, 2025, by and between the City of Moore and _____ that work may now be commenced in accordance with said contract.

Authorized by:

_____

Effective Date: _____

AFFIDAVIT FOR PAYMENTS FOR $25,000 OR MORE
CITY OF MOORE, OKLAHOMA

STATE OF OKLAHOMA }
COUNTY OF CLEVELAND }

The undersigned (architect, contractor, supplier or engineer), of lawful age, being first duly sworn, on oath says that this invoice or claim is true and correct. Affiant further states that the (work, services or materials) as shown by this invoice or claim have been (completed or supplied) in accordance with the plans, specifications, orders or requests furnished by the affiant. Affiant further states that (s)he has made no payment directly or indirectly to any elected official, officer or employee of the State of Oklahoma, any county or local subdivision of the state, of money or any other thing of value to obtain payment.

_____
(Contractor)

Subscribed and sworn to before me this_____day of_____, 2025.

_____
Notary Public

My Commission Expires:

_____

Note: Copy of this Affidavit must be attached to any invoice submitted by an Architect, Contractor, Engineer or Supplier of material for $25,000 or more.

PAYMENT CERTIFICATE

TO: City of Moore

Re: **CITY OF MOORE CITY HALL RENOVATION No. 2025-010**

I,_____of
Name of Authorized Agent and Designation

_____ do hereby affirm that all claims and Company obligations incurred by me or in my behalf in connection with the performance of the above mentioned project have been fully paid and settled.

_____
Authorized Representative

_____
Name of Company

STATE OF OKLAHOMA }
COUNTY OF CLEVELAND}

BEFORE ME, the undersigned, a Notary Public in and for said County and State, on this ____day of_____, 2025, personally appeared_____, (name) to me known to be the identical person who signed the name of_____, corporation/proprietorship/authorized agent name) an Oklahoma corporation, to the within and foregoing instrument as its_____, (president/owner) and acknowledged to me that he executed the same as his free and voluntary act and deed and as the free and voluntary act and deed of said Corporation/Company for uses and purposes therein set forth.

Witness my hand and seal the day and year last above written.

_____
Notary Public

My Commission Expires: _____

CONTRACTOR'S RELEASE TO CITY

TO: City of Moore

Re: **CITY OF MOORE CITY HALL RENOVATION No. 2025-010**

This is to certify that _____, by acceptance of this final payment, hereby releases the owner, City of Moore, from all claims and all liabilities to the City of Moore for all things done or furnished in connection with work on this project and further releases said City of Moore from liabilities arising from any act of the owner or his agent arising in connection with this project. This release in no way operates to release the contractor or his Surety from any obligations under this contract or the bond tendered pursuant thereto.

_____
Name of Corporation

_____
Authorized Agent

STATE OF OKLAHOMA }
COUNTY OF CLEVELAND}

BEFORE ME, the undersigned, a Notary Public in and for said County and State, on this ____ day of_____, 2025, personally appeared_____, (name) to me known to be the identical person who signed the name of_____, 0(business/proprietorship/authorized agent name), an Oklahoma corporation/proprietorship, to the within and foregoing instrument as its_____(president/owner), and acknowledged to me that he executed the same as his free and voluntary act and deed and as the free and voluntary act and deed of said Corporation/ Company for uses and purposes therein set forth.

Witness my hand and seal the day and year last above written.

_____
Notary Public

My Commission Expires: _____

SUBCONTRACTOR'S

WAIVER AND RELEASE OF LIEN UPON FINAL PAYMENT

The undersigned subcontractor or material/equipment supplier, in consideration of the final payment in the amount of $_____, hereby waives and releases its lien, and right to claim a lien for labor, services, or materials furnished to _____(contractor) on the job of 2025-010 Moore Public Works for the City of Moore, Cleveland County, Oklahoma (Owner).

The said subcontractor or material/equipment supplier has been fully satisfied and paid any and all claims for labor and materials/equipment insofar as they pertain to the "Project" in question.

In further consideration of the payment made and set forth, the undersigned certifies that all of its subcontracts or material/equipment suppliers and employees on the project have already been paid and the undersigned agrees to indemnify and hold completely harmless _____(contractor) in the event of any claims hereafter made alleging non-payment by such subcontractors or material/equipment suppliers or employees.

Date: _____

_____
Subcontractor/Supplier

By:_____(Print Name)

_____(Signature)_____(Title)

State of_____County of _____

Subscribed and sworn to before me on this_____day of_____, 2025

_____ My commissions expire: _____
Notary Public

My commission number: _____

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D. 07 9005 - Joint Sealers

2.08 DIVISION 08 -- OPENINGS

A. 08 1113 - Hollow Metal Doors and Frames (Dorsey)
B. 08 1216 - Inframe Interior Framing System
C. 08 1416 - Flush Wood Doors
D. 08 4126 - All Glass Entrance and Storefront
E. 08 4227 - Frameless Sliding Glass Doors - Avanti
F. 08 5619 - Pass-Thru Windows
G. 08 7100 - Door Hardware (Dorsey)
H. 08 8000 - Glazing

2.09 DIVISION 09 -- FINISHES

A. 09 2116 - Gypsum Board Assemblies - USG
B. 09 3000 - Tiling
C. 09 5100 - Acoustical Ceilings
D. 09 6500 - Resilient Flooring
E. 09 6813 - Tile Carpeting
F. 09 7200 - Wall Coverings
G. 09 9000 - Painting and Coating - Commercial Facility Guide Specification - Sherwin-Williams

2.10 DIVISION 10 -- SPECIALTIES

A. 10 2116 - Solid Plastic Toilet Compartments
B. 10 2800 - Toilet, Bath, Misc. Accessories
C. 10 4416 - Fire Extinguisher

2.11 DIVISION 11 -- EQUIPMENT

2.12 DIVISION 12 -- FURNISHINGS

2.13 DIVISION 13 -- SPECIAL CONSTRUCTION

2.14 DIVISION 14 -- CONVEYING EQUIPMENT

2.15 DIVISION 21 -- FIRE SUPPRESSION

2.16 DIVISION 22 -- PLUMBING

2.17 DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

2.18 DIVISION 25 -- INTEGRATED AUTOMATION

2.19 DIVISION 26 -- ELECTRICAL

2.20 DIVISION 27 -- COMMUNICATIONS

2.21 DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY

END OF SECTION

SECTION 00 0115
LIST OF DRAWING SHEETS

GENERAL: THE LIST OF DRAWINGS FOR THIS BID IS AS INDICATED ON THE BID SET TITLED "CITY OF MOORE - CITY HALL RENOVATION"

1.01 DATED AND STAMPED BY THE ARCHITECT 02.10.2025. REFER TO SHEET INDEX ON DRAWINGS SHEET G110

END OF SECTION

SECTION 00 3100
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

3.01 OBTAINMENT OF PERMITS

A. Contractor to obtain the following required permits, at no cost to Owner:
   1. Building Permit and permit for all required trades..

B. Building Permit Procedures: When required to obtain this permit:
   1. Complete and file permit application(s) with appropriate agency.
      a. Submit application within five days of the Notice to Proceed.
   2. Pay required fees.
   3. Advise Architect if submission of modified documents is necessary to have the authorities having jurisdiction complete the plan review and approval process. Submit modified documents expeditiously.
   4. Do not commence execution of any item of work for which a permit has not been obtained.

END OF SECTION

SECTION 00 4323
ALTERNATES FORM

PARTICULARS

1.01 THE FOLLOWING IS THE LIST OF ALTERNATES REFERENCED IN THE BID SUBMITTED BY:

1.02 (BIDDER) _____

1.03 DATED _____ AND WHICH IS AN INTEGRAL PART OF THE BID FORM.

ALTERNATES LIST

2.01 THE FOLLOWING AMOUNTS SHALL BE ADDED TO OR DEDUCTED FROM THE BID AMOUNT. REFER TO SECTION 01 2300 - ALTERNATES.

2.02 REPLACE ALL EXISTING DOOR HARDWARE WITH NEW HARDWARE FOR EXISTING DOORS WHICH ARE TO REMAIN:

ALTERNATE #1: ADD / (DEDUCT) $_____

END OF SECTION

SECTION 00 7200
GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS AVAILABLE FROM THE OWNER / GENERAL CONTRACTOR. SUPPLEMENTARY CONDITIONS REFERENCED ARE BASED ON USE OF AIA DOCUMENT A201, LATEST VERSION. INTENT OF SUPPLEMENTARY CONDITIONS REMAIN APPLICABLE TO OTHER GENERAL CONDITIONS WHICH MAY BE APPLICABLE TO CONTRACT USED BY OWNER UNLESS OTHERWISE MODIFIED IN CONTRACT WITH OWNER.

SUPPLEMENTARY CONDITIONS

2.01 REFER TO DOCUMENT 00 7300 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

INTENT

1.01 GENERAL

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

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

MODIFICATIONS TO AIA A201

2.01 REFERENCE STANDARDS

A. AIA A201 - General Conditions of the Contract for Construction; 2017.

B. AIA A312 - Performance Bond and Payment Bond; 2010.

2.02 ARTICLE 3.6 - TAXES

A. Delete the article and add the following:
   1. "Article 3.6 TAXES: The Contractor shall exclude sales tax. The Contractor shall be designated as an agent of the Owner in accordance with the laws of the State in which the project is constructed. The Contractor shall execute with the Owner the "Designation of Purchasing Agent" on form provided by the Owner.

B. For convenience of reference, a copy of the form is appended to this document.

2.03 ARTICLE 7.3 - CONSTRUCTION CHANGE DIRECTIVES

A. Add the following subparagraph:
   1. 7.3.11: The Agreement identifies the overhead and profit fees applicable for Changes in the Work, whether additions to or deductions from the Work on which the Contract Sum is based and identifies the fees for subcontract work for changes (both additions and deductions) in the Work. The Contractor shall limit the fees as noted.

2.04 ARTICLE 8 - TIME

A. Add the following subparagraph:
   1. 8.1.5: Contract Time commences at the Notice to Proceed and continues to the date of Substantial Completion.

2.05 ARTICLE 11.4 - PERFORMANCE, PAYMENT, AND MAINTENANCE BONDS

A. Add the following subparagraph:
   1. 11.4.3: Bonds are required of the Contractor and may be required of the sub-contractors at the discretion of the Contractor. The cost of General Contractor bonds shall be included in the bid. The bond value requirements are as follows:
      a. Provide a 100 percent Performance Bond on AIA A312.
      b. Provide a 100 percent Payment and Materials Bond (Statutory Bond) on Owner's form.
      c. Provide a 100 percent Defect Bond on Owner's form.
      d. Deliver bonds within 3 days after execution of the Contract.
   2. For convenience of reference, a copy of the forms are appended to this document.

2.06 OTHER ITEMS TO BE ADD TO OR WHICH MODIFY GENERAL CONDITIONS

A. Warranty period for the project shall be for one (1) year from the date of Substantial Completion except as otherwise modified by the various sections of the specifications.

B. Subcontractors shall certify in writing to the General Contractor that their Record Drawings show complete and accurate "as-built" conditions in accordance with construction industry

standards stating sizes, kinds of materials, vital piping, conduit locations, and similar matters. Further all other writings, drawings or sketches reflecting changes in the work shall be included within the Record Drawings. Record Drawings shall be submitted to the Contractor prior to Substantial Completion.

C. Coordinating services in connection with the Work of persons or entities retained by the Owner with respect to testing, landscaping, or other vendors including, without limitation, geotechnical and concrete testing, wiring with respect to telephone, computers, audio / visual and security system or any other items related to any of the foregoing or of a type similar to the foregoing shall not be deemed to be additional services subject to additional compensations.

D. Substantial Completion: Work shall not be deemed to be substantially complete until such time as: (1) a Certificate of Occupancy has been issued by the City of Moore or its authorized agency; and (2) it is determined that the Work complies with all requirements of the Construction Documents, subject to adjustment as identified on the punch list developed for Substantial Completion.

E. Ten Percent (10%) retainage will be held on all sub-contractor's payments and subsequently, the General Contractor's payments until Substantial Completion. The Owner may at his discretion reduce retainage to 5% upon 50% completion. At Substantial Completion, an amount shall be identified as required to complete the work based on the Substantial Completion Punch list and on the project Schedule of Values. That amount shall be doubled as final retention until Final Completion is achieved, with remaining funds in retention released. Substantial Completion retained funds shall then be released in accordance with the General Conditions of the Contract at Final Completion.

F. Change Orders: sub-contractors maximum combined overhead and profit shall not exceed 15%.

1. For the purpose of change orders, labor burden shall be defined as the extra cost of labor in addition to an employee's regular ACTUAL wages (not billing rate). Burden includes employer taxes, insurance, benefits, vacation time and other costs based on regular payroll wages and established company policies. It does not include employee withholding. Sub-Contractor shall identify the labor burden with appropriate documentation in their bidding documentation to the General Contractor and that burden shall apply to all changes in the work. The General Contractor shall identify the maximum allowable Labor Burden percentage and enter it in the appropriate location on the Bid Form.
    a. Each subcontract to be entered into by the Contractor, shall contain provisions that: (i) require that the Work to be performed under such subcontract shall be in accordance with the requirements of the Contract Documents; (ii) contain the waivers of subrogation rights as provided by the contractual agreement between the Contractor and the Owner; (iii) require that the subcontractor submit certificates and waivers of lien in a form and content satisfactory to Owner and Contractor for Work completed by it and its subcontractors as a condition to disbursement of payments required hereunder. (iv) Require that each subcontractor furnish to the Contractor in a timely fashion all information necessary for the preparation and submission of reports required herein; (v) require that each subcontractor continue to perform under its subcontract in the event that, as provided by the contractual agreement between the Contractor and the Owner, the Contractor is terminated and the Owner takes an assignment of such subcontract and requests that such subcontractor continue such performance; (vi) permit the Contractor to retain from payments due such subcontractors, the retainage described in the General Conditions, as amended by the Supplementary Conditions and the General Contractor's Contract for Construction, and (vii) if required by law, require each subcontractor to represent that it is an equal opportunity employer as provided by law.
    b. All written warranties and guaranties shall be submitted to the Contractor prior to the date of Substantial Completion and shall be properly dated to commence on date of

Substantial Completion, regardless of installation date. Warranty on new or replacement items installed for the first time after the Substantial Completion date shall be dated from date of installation.

2.07 INSURANCE REQUIREMENTS

A. The Contractor, prior to commencing the Work, except as otherwise noted, shall procure and purchase the following insurance from a company or companies lawfully authorized to do business in the State of Oklahoma.

B. All General Conditions, Supplementary Conditions, and the Agreement for Construction shall be thoroughly studied prior to purchase of an insurance policy to cover the requirements of the project. Limits and conditions listed below shall be minimums and may be expanded by certain clauses of the Agreement. Both the Owner and Architect shall be named as additional insureds on the commercial General Liability Policy and the Umbrella Liability Policy and shall cover their employees, agents, or consultants on the jobsite. Waivers of Subrogation are required for both Property Insurance and Liability Insurance.

1. Commercial General Liability (Occurrence basis):
    a. General Aggregate Limit: $2,000,000
    b. Each Occurrence Limit: $1,000,000
    c. Products and Completed Operations Aggregate Limit: $1,000,000
    d. Personal Injury: $1,000,000
        1) Business Auto Liability
            (a) Combined Single Limit for Bodily Injury and Property Damage: $1,000,000 (to included Owned, Hired and Non-Owned Auto)
        2) Workers Compensation / Employer's Liability
            (a) Each accident - Statutory requirements but not less than $100,000
            (b) Disease Limit - Policy - Statutory requirements but not less than $500,000
            (c) Disease Limit - Each Employee - Statutory requirements but not less than $100,000
        3) Builder's Risk Insurance
            (a) In addition to the Contractor's Products and Completed Operations Aggregate Limit, the following shall also apply: The Owner shall purchase and maintain Builder's Risk Insurance.
            (b) Policy shall be for full replacement value and shall remain in place until final acceptance of the project by the Owner.
        4) Other Insurance on Loss of Use
            (a) The Owner, at the Owner's option, may purchase and maintain such insurance that will protect the Owner against loss of use of his property.

2.08 SPECIAL PROJECT REQUIREMENTS

A. Successful Bidder shall be required to execute "Non-Kickback Affidavit" provided by the Owner in the Contract / Bidding Documents.

END OF SECTION

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: City of Moore City Hall Renovation

B. Owner's Name: City of Moore.

C. Architect's Name: TAP Architecture, LLC.

D. The Project consists of the renovation of Moore City Hall Building.

E. The Project includes work on two floor . The 1st and 2nd floors have approximately 26,334 s.f. of Usable Gross Area.

1.02 CONTRACT DESCRIPTION

A. Contract Type: Multiple prime contracts, each based on a Stipulated Price as described in Document 00 5000 - Contracting Forms and Supplements.

1.03 WORK BY OWNER

A. Owner will supply and install the following:
   1. None applicable.

B. Owner will supply the following for installation by Contractor:
   1. Designated Restroom Accessories.

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.
   1. Locate and conduct construction activities in ways that will limit disturbance to site.

B. Arrange use of site and premises to allow:
   1. Owner occupancy of adjoining areas to the site..
   2. Protection of the Owner, staff, students and general public outside the construction zone..

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 times coordinated with the Owner..

E. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the site is unoccupied.
   2. 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.
   3. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner.

1.07 SPECIFICATION SECTIONS APPLICABLE TO EVERY CONTRACT

A. Unless otherwise noted, provisions of the sections listed below apply to every contract. Specific items of work listed under individual contract descriptions constitute exceptions.

B. Section 01 2000 - Price and Payment Procedures.

C. Section 01 2300 - Alternates.

D. Section 01 2500 - Substitution Procedures.

E. Section 01 3000 - Administrative Requirements.

F. Section 01 3216 - Construction Progress Schedule.

G. Section 01 4000 - Quality Requirements.

H. Section 01 4533 - Code-Required Special Inspections.

I. Section 01 5000 - Temporary Facilities and Controls.

J. Section 01 6000 - Product Requirements.

K. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

L. Section 01 7000 - Execution and Closeout Requirements.

M. Section 01 7800 - Closeout Submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2000
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. 00 2000 - City of Mooore Contract / Bidding Documentws

B. Section 00 7200 - General Conditions: Additional requirements for progress payments, final payment, changes in the Work.

C. Section 00 7300 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.

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. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.

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

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

D. 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. Balance to Finish.
   9. Retainage.

E. Execute certification by signature of authorized officer.

F. 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.

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

H. Submit one electronic and three hard-copies of each Application for Payment.

I. 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 10 calendar days.

D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.

E. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Overhead and profit.
      c. Justification for any change in Contract Time.
      d. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. 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.

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

G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

I. Promptly enter changes in Project Record Documents.

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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2300
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

B. Procedures for pricing Alternates.

1.02 RELATED REQUIREMENTS

A. Document 00 2113 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

B. Document 00 4323 - Alternates Form: List of Alternates as supplement to Bid Form.

C. Document 00 5200 - Agreement Form: Incorporating monetary value of accepted Alternates.

1.03 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.04 SCHEDULE OF ALTERNATES

A. Alternate No. 01

1. Provide all labor, materials and equipment necessary to provide for and replace all door hardware in existing doors which are to remain.
2. Refer to Sheet A410 Door Schedule and Section 08 7100 Door Hardware for description of Door Hardware to be provided by this Alternate 1.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

01 2500F
SUBSTITUTION PRODUCT APPROVAL REQUEST FORM

All substitutions must be approved prior to bid

Project Name: CITY OF MOORE CITY HALL RENOVATION Request Number: _____

TAP Project No: 2227 BID DATE: _____

CITY OF MOORE PROJECT No: 2025-010

TO: Chris Teehee, cteehee@tapokc.com

FROM: _____

A proposed product is not approved and cannot be included in a bid or used in the Work until it appears in an Addendum or other Contract Modification Instrument as defined in the General Conditions. See Instructions To Bidders, General Conditions, and Section 01600. Include only one product substitution request on each form.

SUBSTITUTE PRODUCT INFORMATION:

Specification Section: No.: _____ Name: _____

Specified Product: _____

Substitute Product: _____

The Undersigned Submitter certifies:

1. Proposed product has been fully investigated and determined to be equal or superior in all respects to specified Product.
2. Same warranty will be furnished for proposed product as for specified Product.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed product will have no adverse effect on other trades and will not affect or delay progress schedule.
5. Proposed product does not substantially change dimensions or required clearances and is comparable in function, capacity, size, quality, and aesthetic appearance to the specified product. (Architect remains the sole judge of acceptable aesthetic appearance).
    a. Submitter agrees to reimburse Owner for any charges by Consultants for review of substitution request and adjustments required to modify Bidding and Construction Documents to incorporate use of the substitute if applicable.

CHECK BELOW <u>ONLY</u> IF SUBSTITUTION IS PROPOSED DUE TO A PRODUCT COMPLICATION:

___ Specified product is no longer available from manufacturer and an equal product cannot be found. Proposed product will perform the function intended. Variations and effect of variations are identified on the line-item comparison sheet.

___ We have reviewed the site and have determined by our investigations that the specified product is not suitable for these field conditions. The substitute product will work as intended and can accommodate the field conditions.

Explain complication:

_____

_____

ATTACHMENTS:

Include the following attachments -

1. Copy of the Project Manual Section where the proposed product would be specified, rewritten or red-lined to include any changes necessary to correctly specify the proposed equal product. Identify completely changes necessary to the original Project Manual Section.
2. Provide copies of details, elevations, cross-sections, and other elements of the Project Drawings redone as necessary to show changes necessary to accommodate proposed product. Identify completely the changes from the original Drawings.
3. Provide complete product literature and technical data, installation and maintenance instructions, test results, and other information required to show complete conformance with requirements of the Contract Documents.
4. Provide attached line item comparisons of product characteristics.

By signature below, the submitter warrants the proposed substitute product is comparable in capacity, quality, size and aesthetic appearance to the specified product and will function properly for the intend use.

SIGNED: _____

Company _____

Address _____

City, State, Zip _____

Telephone _____ FAX _____

Email: _____

PROPOSED EQUAL PRODUCT: (Please repeat data from page 1):

Specification Section: No.: _____ Name: _____

Proposed Product: _____

Submitter Additional Comments:

_____

ARCHITECT'S REVIEW COMMENTS:

_____ Accepted. See Addenda Number _____.

_____ Submission is not in proper form or is missing data. Respond to comments and resubmit.

_____ Proposed Product not found acceptable. Use one of the approved Products.

_____ Not Reviewed. Submission received too late for proper review prior to bid. Use a specified Product.

BY: _____ **DATE:** _____

Title: _____

LINE ITEM COMPARISON
SUBSTITUTE PRODUCT INFORMATION:

Specification Section: No.: _____ Name: _____

Specified Comparison Product: _____

Substitute Product:

_____

Submitter is required to fill out this form and sign it. Duplicate as needed.
Utilize the specified characteristics or the characteristics of a specified product to compare to the proposed substitute as required by "attachments" item 4:

CHARACTERISTIC DESCRIPTION	SPECIFIED	SUBSTITUTE	EQUALITY (+ = -)	Comments
Example:				
Film Thickness	40 mil	60 mil	+	Thicker
Composition	Rubber	Rubber	=	Same: monolithic
Width	54"	52"	-	No effect, same Number seams

Signed: _____

SECTION 01 2500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 01 2500 - Substitution Proceedure

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

B. Substitutions: See General Conditions for definition.

1.04 REFERENCE STANDARDS

A. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage); Current Edition.

B. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

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.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

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

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Owner will consider requests for substitutions only if submitted at least three (3) days prior to the date for receipt of bids.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing the form attached to this section. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form attached to this section. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

D. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

E. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 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.

3.05 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.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

3.07 ATTACHMENTS

A. A facsimile of the Substitution Request Form (During Construction) required to be used on the Project is included after this section.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.
B. Electronic document submittal service.
C. Preconstruction meeting.
D. Site mobilization meeting.
E. Progress meetings.
F. Construction progress schedule.
G. Progress photographs.
H. Coordination drawings.
I. Number of copies of submittals.
J. Requests for Interpretation (RFI) procedures.
K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 6000 - Product Requirements: General product requirements.

1.03 REFERENCE STANDARDS

A. AIA G810 - Transmittal Letter; 2001.

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:
   1. Requests for Interpretation (RFI).
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders),

applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.

2. Contractor and Architect are required to use this service.
3. It is Contractor's responsibility to submit documents in allowable format.
4. Subcontractors, suppliers, and Architect's consultants are to be permitted to use the service at no extra charge.
5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Cost: The cost of the service is to be paid by Contractor; include the cost of the service in the Contract Sum.

C. Submittal Service: The selected service is:

D. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.

E. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 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, City Manager and Architect.
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.

3.03 SITE MOBILIZATION MEETING

A. Schedule meeting at the Project site prior to Contractor occupancy.

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

C. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements.
   3. Construction facilities and controls provided by Owner.
   4. Temporary utilities provided by Owner.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.
   8. Application for payment procedures.
   9. Procedures for testing.
   10. Procedures for maintaining record documents.
   11. Requirements for start-up of equipment.
   12. Inspection and acceptance of equipment put into service during construction period.

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.

3.04 PROGRESS MEETINGS

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

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

C. 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. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.
   8. Planned progress during succeeding work period.
   9. Maintenance of quality and work standards.
   10. Effect of proposed changes on progress schedule and coordination.
   11. Other business relating to work.

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.

3.05 CONSTRUCTION PROGRESS SCHEDULE

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

B. 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.

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

D. Submit updated schedule with each Application for Payment.

3.06 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Photography Type: Digital; electronic files.

C. Provide photographs of site and construction throughout progress of work produced by an experienced photographer, acceptable to Architect.

D. In addition to periodic, recurring views, take photographs of each of the following events:

E. Views:
   1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   2. Consult with Architect for instructions on views required.
   3. Provide factual presentation.
   4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

F. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
   4. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.07 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

B. Review drawings prior to submission to Architect.

3.08 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
   2. Prepare using software provided by the Electronic Document Submittal Service.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 01 6000 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
   4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

D. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Indicate current status of every RFI. Update log promptly and on a regular basis.
   2. Highlight items requiring priority or expedited response.
   3. Highlight items for which a timely response has not been received to date.
   4. Identify and include improper or frivolous RFIs.

E. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.

F. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

3.09 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.

3.10 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   3. Transmit using approved form.
      a. Use Form AIA G810.
   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. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
   6. Provide space for Contractor and Architect review stamps.
   7. 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.

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.

3.11 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 01 3216
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 01 1000 - Summary: Work sequence.

1.03 REFERENCE STANDARDS

1.04 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 updated schedule with each Application for Payment.

F. Submit in PDF format.

1.05 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

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. Identify each item by specification section number.

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

D. 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 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

3.06 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

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Contractor's construction-related professional design services.

F. Control of installation.

G. Mock-ups.

H. Tolerances.

I. Manufacturers' field services.

J. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Document 00 7200 - General Conditions: Inspections and approvals required by public authorities.

B. Section 01 3000 - Administrative Requirements: Submittal procedures.

C. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2023).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2024.

C. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2023.

D. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2023.

E. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2021.

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

1.04 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

B. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.

1. Design Services Types Required:
    a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor’s sole responsibilities for construction means, methods, techniques, sequences, and procedures.
    b. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.

C. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.05 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.

B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
   1. Temporary sheeting, shoring, or supports.
   2. Temporary scaffolding.
   3. Temporary bracing.
   4. Temporary falsework for support of spanning or arched structures.
   5. Temporary foundation underpinning.
   6. Temporary hoist(s) and rigging.
   7. Investigation of soil conditions to support construction equipment.

1.06 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Designer's Qualification Statement: Submit for Architect's knowledge as contract administrator, or for Owner's information.
   1. Include information for each individual professional responsible for producing, or supervising production of, design-related professional services provided by Contractor.
      a. Full name.
      b. Professional licensure information.
      c. Statement addressing extent and depth of experience specifically relevant to design of items assigned to Contractor.

C. 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.
   1. Include required product data and shop drawings.
   2. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.
   3. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

D. Test Reports: After each test/inspection, promptly submit digital 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.
   2. Test report submittals are 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.

E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

F. 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.

G. 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.

H. 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.

1.07 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
   2. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

B. Contractor's Quality Control (CQC) Plan:
   1. Prior to start of work, submit a comprehensive plan describing how contract deliverables will be produced. Tailor CQC plan to specific requirements of the project. Include the following information:
      a. Management Structure: Identify personnel responsible for quality. Include a chart showing lines of authority.
      b. Management Approach: Define, describe, and include in the plan specific methodologies used in executing the work.
      c. Owner will not make a separate payment for providing and maintaining a Quality Control Plan. Include associated costs in Bid price.

C. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

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 MOCK-UPS

A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 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.

3.04 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/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. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.

3. Provide incidental labor and facilities:
    a. To provide access to Work to be tested/inspected.
    b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    c. To facilitate tests/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/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

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

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

3.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

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

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Project identification sign.

1.02 REFERENCE STANDARDS

1.03 TEMPORARY UTILITIES

A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

B. New permanent facilities may be used.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.04 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Internet Connections: Minimum of one; DSL modem or faster.
   3. Email: Account/address reserved for project use.

1.05 TEMPORARY SANITARY FACILITIES

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

B. New permanent facilities may not be used during construction operations.

C. Maintain daily in clean and sanitary condition.

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

1.06 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 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.

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

1.07 FENCING

A. Construction: Contractor's option.

B. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.08 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.

1.09 INTERIOR ENCLOSURES

A. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.10 SECURITY

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

B. Coordinate with Owner's security program.

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

1.12 WASTE REMOVAL

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

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

C. 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.

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

1.13 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.14 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

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

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 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

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

1.02 RELATED REQUIREMENTS

A. Section 01 2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

B. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.03 REFERENCE STANDARDS

A. NEMA MG 1 - Motors and Generators; 2021.

B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

C. NSF 332 - Sustainability Assessment for Resilient Floor Coverings; 2022.

D. NSF/ANSI 140 - Sustainability Assessment for Carpet; 2019.

E. NSF/ANSI 347 - Sustainability Assessment for Single Ply Roofing Membranes; 2018.

F. UL 100 - Standard for Sustainability for Gypsum Boards and Panels; Current Edition, Including All Revisions.

1.04 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. 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 using or containing CFC's or HCFC's.
   2. Made of wood from newly cut old growth timber.
   3. Containing lead, cadmium, or asbestos.

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 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

3.02 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.

3.03 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 01 7419.

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

SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

C. Requirement for installer certification that they did not use any non-compliant products.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 3329.02 - Sustainable Design Reporting - LEED v4: Procedures for reporting emissions and VOC content data.

C. Section 01 3329.04 - Material Content Form: Form for reporting emissions and VOC content.

D. Section 01 3329.12 - Sustainable Design Reporting - LEED v4.1.

1.03 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Flooring.
   3. Composite wood.
   4. Products making up wall and ceiling assemblies.
   5. Thermal and acoustical insulation.
   6. Other products when specifically stated in the specifications.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Concrete.
   2. Metals that are plated, anodized, or powder-coated.
   3. Glass.
   4. Ceramics.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2018).

C. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2; 2017.

D. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; Current Edition.

E. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2020.

F. CHPS (HPPD) - High Performance Products Database; Current Edition.

G. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Current Edition.

H. SCAQMD 1113 - Architectural Coatings; 1977, with Amendment (2016).

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

J. SCS (CPD) - SCS Certified Products; Current Edition.

K. UL (GGG) - GREENGUARD Gold Certified Products; Current Edition.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

C. Sustainable Design Reporting: Submit evidence of compliance.
   1. See Section 01 3329.02 - Sustainable Design Reporting - LEED v4.
   2. See Section 01 3329.04 - Material Content Form.
   3. See Section 01 3329.12 - Sustainable Design Reporting - LEED v4.1.

D. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of installer's products, or 2) that such products used comply with these requirements.

1.06 QUALITY ASSURANCE

A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.
   1. Wet-Applied Products: State amount applied in mass per surface area.
   2. Paints and Coatings: Test tinted products, not just tinting bases.
   3. Evidence of Compliance: Acceptable types of evidence are the following;
      a. Current UL (GGG) certification.
      b. Current SCS (CPD) Floorscore certification.
      c. Current SCS (CPD) Indoor Advantage Gold certification.
      d. Current listing in CHPS (HPPD) as a low-emitting product.
      e. Current CRI (GLP) certification.
      f. Test report showing compliance and stating exposure scenario used.
   4. Product data submittal showing VOC content is NOT acceptable evidence.
   5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.

B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Report of laboratory testing performed in accordance with requirements.

C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.

b. Report of laboratory testing performed in accordance with requirements.
c. Published product data showing compliance with requirements.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.

B. VOC-Content-Restricted Products: VOC content not greater than required by the following:
1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
2. Joint Sealants: SCAQMD 1168 Rule.
3. Paints and Coatings: Each color; most stringent of the following:
a. 40 CFR 59, Subpart D.
b. SCAQMD 1113 Rule.
c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, modifications.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

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

J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.

F. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

G. Section 02 4100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

H. Section 07 8400 - Firestopping.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.

3. Include a summary of safety procedures.

D. 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.

E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.
   1. Minimum of 10 years of documented experience.

B. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

D. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 PROJECT CONDITIONS

A. Use of explosives is not permitted.

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

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
   1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

E. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

F. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

G. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

A. See Section 01 1000 for occupancy-related requirements.

B. 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.

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

D. 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.

E. 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.

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

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

H. 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 01 6000 - 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 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related 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.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. 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.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 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.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.

3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
2. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

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

B. See Alterations article above for additional requirements.

C. 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.

D. 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.

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

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

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

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

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

J. 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.

3.08 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.

3.09 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.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. See Section 01 7900 - Demonstration and Training.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.12 ADJUSTING

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

3.13 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. 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.

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

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

F. Clean filters of operating equipment.

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

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

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

J. Owner will provide wax to floors at completion of Contractor cleaning. Floors shall be cleaned and ready to recieve wax coat

3.14 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.

3.15 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 7419
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. Contractor Reporting Responsibilities: Submit periodic Waste Disposal Reports; report landfill disposal, incineration, recycling, salvage, and reuse regardless of to whom the cost or savings accrues; use the same units of measure on required reports.

E. 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.

F. 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 01 2500 - Substitution Procedures.

B. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

D. Section 01 6000 - Product Requirements: Waste prevention requirements related to product substitutions.

E. Section 01 6000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

F. Section 01 7000 - Execution and Closeout Requirements: 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 01 3000 - Administrative Requirements for submittal procedures.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 01 6000 and Section 01 2500.

B. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 6000:
   1. Relative amount of waste produced, compared to specified product.
   2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Price.
   3. Proposed disposal method for waste product.
   4. Markets for recycled waste product.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Prebid meeting.
   2. Preconstruction meeting.
   3. Regular job-site meetings.

E. 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.

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

G. 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.

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

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

END OF SECTION

SECTION 01 7610
TEMPORARY PROTECTIVE COVERINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.02 RELATED REQUIREMENTS

A. Section 01 7000 - Execution and Closeout Requirements: Coordination of requirements for materials specified in this section.

1.03 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

D. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2023, with Errata.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
   1. Water resistant.
   2. Vapor permeable.
   3. Impact resistant.
   4. Slip resistant.
   5. Flame retardant.

2.02 MATERIALS

A. Sheet Materials:
   1. Corrugated polypropylene sheet.
   2. Recycled paperboard/plastic composite sheet.
   3. Recycled paperboard sheet.
   4. Wood Hardboard: ANSI A135.4, tempered, 1/4 inch (6 mm) thick nominal.
   5. Plywood, 1/2 inch (13 mm) thick nominal.
   6. Fiberboard: ASTM C208, 1/2 inch (13 mm) thick nominal.
   7. Flame Retardance: Meet requirements of NFPA 701.
   8. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Rolled Materials:
   1. Recycled cellulose fiberboard paper.
   2. Laminated glass fiber reinforced kraft paper.
   3. Flame Retardance: Meet requirements of NFPA 701.
   4. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

C. Corner and Door Jamb Protection Materials:
   1. Cardboard, shaped specifically for application.
   2. PVC plastic.

D. Tape: Type recommended by protective covering material manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

A. Remove dirt and debris from surfaces to be protected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Trim or overlap sheet materials to fit area to be covered.

C. Roll out and cut rolled materials to fit area to be covered.

3.03 REMOVAL

A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

END OF SECTION

SECTION 01 7800
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 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

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

C. 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.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

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

B. 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.

C. 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. 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.

B. Additional information as specified in individual product specification sections.

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. 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.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

C. Include color coded wiring diagrams as installed.

D. 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.

E. 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.
   1. Include HVAC outdoor and exhaust air damper calibration strategy.
      a. Include provisions which ensure that full closure of dampers can be achieved.
   2. Include Carbon Dioxide Monitoring Protocol.
   3. Include Carbon Monoxide Monitoring Protocol.
   4. Include Frost Mitigation Strategy for ventilation heat-recovery system.

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. 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.

E. 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. Operation and maintenance data.
      c. Field quality control data.
      d. 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

SECTION 01 7900
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUMMARY

A. Demonstration of products and systems where indicated in specific specification sections.

B. Training of Owner personnel in operation and maintenance is required for:
   1. All software-operated systems.
   2. HVAC systems and equipment.
   3. Plumbing equipment.
   4. Electrical systems and equipment.
   5. Items specified in individual product Sections.

C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
   1. Finishes, including flooring, wall finishes, ceiling finishes.
   2. Fixtures and fittings.
   3. Items specified in individual product Sections.

1.02 RELATED REQUIREMENTS

A. Section 01 9113 - General Commissioning Requirements: Additional requirements applicable to demonstration and training.

1.03 SUBMITTALS

A. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
   1. Include applicable portion of O&M manuals.
   2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
   3. Provide one extra copy of each training manual to be included with operation and maintenance data.

B. Training Reports:
   1. Identification of each training session, date, time, and duration.
   2. Sign-in sheet showing names and job titles of attendees.
   3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

C. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
   1. Format: DVD Disc.
   2. Label each disc and container with session identification and date.

1.04 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
   1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
   2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.

C. Demonstration may be combined with Owner personnel training if applicable.

D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.
   2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

A. Conduct training on-site unless otherwise indicated.

B. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

C. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
   1. The location of the O&M manuals and procedures for use and preservation; backup copies.
   2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
   3. Typical uses of the O&M manuals.

D. Product- and System-Specific Training:
   1. Review the applicable O&M manuals.
   2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
   3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
   4. Provide hands-on training on all operational modes possible and preventive maintenance.
   5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
   6. Discuss common troubleshooting problems and solutions.
   7. Discuss any peculiarities of equipment installation or operation.
   8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
   9. Review recommended tools and spare parts inventory suggestions of manufacturers.
   10. Review spare parts and tools required to be furnished by Contractor.
   11. Review spare parts suppliers and sources and procurement procedures.

E. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

B. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

C. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

D. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

E. Section 01 7000 - 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.

F. Section 31 2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 DEFINITIONS

A. Demolition: 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. Remove and Salvage: Detach or dismantle items from existing construction in a manner to prevent damage. Clean, package, label and deliver salvaged items to Owner in ready-for-reuse condition.

D. Remove and Reinstall: Detach or dismantle items from existing construction in a manner to prevent damage. Clean and prepare for reuse and reinstall where indicated.

E. 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

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Site Plan: Indicate:
   1. Vegetation to be protected and relocated to a place designated by the Owner.
   2. Areas for temporary construction and field offices.
   3. Areas for temporary and permanent placement of removed materials.

C. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.
   1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
   2. Summary of safety procedures.

D. Demolition firm qualifications.

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

1.06 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.
   1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: See Section 31 2323.

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove portions of existing building as noted on Architectural Demo Plan.

B. Remove other items indicated, for salvage, relocation, and recycling.

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. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. 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.
   5. Provide, erect, and maintain temporary barriers and security devices.
   6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   9. 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.
   10. 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.

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. Do not disrupt utilities to areas in building not in project scope. Building not in scope to remain occuupied durring construction.

E. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

F. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

G. 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.

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

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from areas that remain occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
   2. Provide sound retardant partitions of construction and in locations indicated by Owner and Architect.

C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

D. Remove existing work as indicated and required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
   2. Remove items indicated on drawings.

E. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
   1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. Verify that abandoned services serve only abandoned facilities before removal.
   4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
   1. Prevent movement of structure. Provide shoring and bracing as required.
   2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.

3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.05 DEBRIS AND WASTE REMOVAL

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

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 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Floors and slabs on grade.

B. Concrete reinforcement.

C. Joint devices associated with concrete work.

D. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 03 1000 - Concrete Forming and Accessories: Forms and accessories for formwork.

B. Section 03 1119 - Insulating Concrete Forming: Forms and accessories for "hardened rooms".

C. Section 07 9200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

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-308 - Guide to External Curing of Concrete; 2016.

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

I. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.

J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2023.

K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2023.

L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2024.

M. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2023.

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

O. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.

P. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2023.

Q. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).

R. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.

S. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).

T. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2023, with Editorial Revision.

U. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2017.

V. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2021.

W. ASTM C1202 - Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration; 2019.

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

Y. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete; 2019.

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

AA. ASTM C1708/C1708M - Standard Test Methods for Self-Leveling Mortars Containing Hydraulic Cements; 2023.

BB. ASTM D471 - Standard Test Method for Rubber Property--Effect of Liquids; 2016a (Reapproved 2021).

CC. COE CRD-C 513 - Handbook for Concrete and Cement Corps of Engineers Specifications for Rubber Waterstops; 1974.

DD. NSF 61 - Drinking Water System Components - Health Effects; 2023, with Errata.

EE. NSF 372 - Drinking Water System Components - Lead Content; 2022.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
   1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
   2. For chemical-resistant waterstops, provide data on ASTM D471 test results.

C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.
   2. Indicate proposed mix design complies with requirements of ACI CODE-318, Chapter 5 - Concrete Quality, Mixing and Placing.

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

E. Test Reports: Submit termite-resistant sheet manufacturer's summary of independent laboratory and field testing for effectiveness in subterranean termite exclusion.

F. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

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.

D. For slabs required to include moisture vapor reducing admixture (MVRA), do not proceed with placement unless manufacturer's representative is present for every day of placement.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Slabs with Porosity Inhibiting Admixture (PIA) or Moisture Vapor Reducing Admixture (MVRA): Provide warranty to cover cost of flooring failures due to moisture migration from slabs for life of the concrete.
   1. Include cost of repair or removal of failed flooring, placement of topical moisture remediation system, and replacement of flooring with comparable flooring system.
   2. Provide warranty by admixture manufacturer matching terms of flooring adhesive or primer manufacturer's material defect warranty.

C. Moisture Emission-Reducing Curing and Sealing Compound, Membrane-Forming: Provide warranty to cover cost of flooring delamination failures for 10 years.
   1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

D. Moisture Emission-Reducing Curing and Sealing Compound, Penetrating: Provide non-prorated warranty to cover cost of flooring delamination failures for 20 years.
   1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

PART 2 PRODUCTS

2.01 FORMWORK

A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Remove form material below window existing window sill. Provide water stop prior to making exterior pour.
   2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.

2.02 REINFORCEMENT MATERIALS

A. Comply with requirements of Section 03 2000.

B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.
   3. Location: Place reinforcing 12" o.c.e.w. in 4" concrete topping where 4" brick pavers area being removed.

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.

C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
   1. Products:
      a. for hot weather application.

D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
   1. Products:
      a. Euclid Chemical Company; PLASTOL 6420: www.euclidchemical.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
   1. Products:
      a. Euclid Chemical Company; ACCELGUARD 80: www.euclidchemical.com/#sle.

F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

G. Retarding Admixture: ASTM C494/C494M Type B.

H. Moisture Vapor Reducing Admixture (MVRA): Liquid, inorganic admixture free of volatile organic compounds (VOCs). Closes capillary systems formed during concrete curing to reduce moisture vapor emission and transmission. Reduces concrete shrinkage with no adverse effect on concrete properties or applied flooring.
   1. VOC Content: Zero.
   2. Products:
      a. AVECS, LLC; PRO-ACT: www.avecs.build/#sle.
      b. Specialty Products Group; Vapor Lock 20/20: www.spggogreen.com/#sle.

2.05 ACCESSORY MATERIALS

A. Self-Leveling Cementitious Concrete Floor Topping: for stairs and general floor conditions.
   1. Minimum Compressive Strength at 28 Days, ASTM C1708/C1708M: 7,000 pounds per square inch (48 MPa).
   2. Products:
      a. LATICRETE International, Inc; LATICRETE SUPERCAP SC650-MC: Interor use only; 1/4" - 2" pour depth. www.laticrete.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.06 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
   1. Products:
      a. Euclid Chemical Company; AKKRO-7T: www.euclidchemical.com/#sle.

B. Waterstops: Rubber, complying with COE CRD-C 513.
   1. Configuration: As indicated on drawings.
   2. Size: As indicated on drawings.

C. Waterstops: Bentonite and butyl rubber, complying with NSF 61 and NSF 372.
   1. Configuration: As indicated on drawings.
   2. Size: As indicated on drawings.
   3. Location: at pour joint at exterior edge of existing glazing system.
   4. Products:
      a. Penetron; Penebar SW-55: www.penetron.com/#sle.

b. CETCO, a division of Minerals Technologies INc; WATERSTOP RX www.mineraltech.com.
c. Substitutions: See Section 01 6000 - Product Requirements.

D. Reglets: Formed steel sheet, galvanized, with temporary filler to prevent concrete intrusion during placement.
1. Size: 1/2 inch (13 mm) throat, 1/2 inch (13 mm) deep.

E. Slab Isolation Joint Filler: 1/2 inch (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) deep sealant pocket after removal.

F. Slab Contraction Joint Device: Preformed linear strip intended for pressing into wet concrete to provide straight route for shrinkage cracking.
1. Products:
a. W. R. Meadows, Inc; Speed-E-Joint: www.wrmeadows.com/#sle.

G. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular knockout holes for conduit or rebar to pass through joint form at 6 inches (150 mm) on center; ribbed steel stakes for setting.
1. Provide removable plastic cap strip that forms wedge-shaped joint for sealant installation.
2. Height: To suit slab thickness.

2.07 CURING MATERIALS

A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.
1. Products:
a. Euclid Chemical Company ; EUCOBAR: www.euclidchemical.com/#sle.
b. Kaufman Products Inc; VaporAid: www.kaufmanproducts.net/#sle.
c. Nox-Crete Inc; Monofilm: www.nox-crete.com/#sle.
d. SpecChem, LLC; SpecFilm Concentrate or SpecFilm: www.specchemllc.com/#sle.
e. W. R. Meadows, Inc ; Evapre or Evapre-RTU: www.wrmeadows.com/#sle.
f. Substitutions: See Section 01 6000 - Product Requirements.

B. Curing Agent, Water-Cure Equivalent Type: Clear, water-based, non-film-forming, liquid-water cure replacement agent.
1. Comply with ASTM C309 standards for water retention.
2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 14-day water cure when tested according to ASTM C39/C39M.
3. VOC Content: Zero.
4. Products:
a. Sinak Corporation; LithiumCure 2000: www.sinak.com/#sle.
b. Substitutions: See Section 01 6000 - Product Requirements.

C. Curing and Sealing Compound, Moisture Emission-Reducing, Penetrating: Clear, water-based, non-film-forming curing agent; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission, moisture vapor emission, and alkalinity.
1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C39/C39M.
3. Chloride Ion Resistance of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C1202.
4. Comply with ASTM C309 and ASTM C1315 Type I Class A.

2.08 CONCRETE MIX DESIGN

A. Concrete Strength: 3,500 psi at 4" concrete leveling pour back.

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

C. Normal Weight Concrete:
   1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: As indicated on drawings.
   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: Maximum 40 percent by weight.
   6. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
   7. Maximum Slump: 3 inches (75 mm).
   8. Maximum Aggregate Size: 5/8 inch (16 mm).

2.09 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.

D. Do not use expansive component in same concrete batch with MVRA or PIA.

E. Do not use shrinkage-reducing admixture (SRA) in same concrete batch with MVRA or PIA.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

D. 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.

E. 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.

3.03 PLACING CONCRETE

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

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

3.04 SLAB JOINTING

A. Locate joints as indicated on drawings.

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.

D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch (5 mm) thick blade and cut at least 1 inch (25 mm) deep but not less than one quarter (1/4) the depth of the slab.

E. Contraction Joint Devices: Use preformed joint device, with top set flush with top of slab.

F. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.

3.05 SEPARATE FLOOR TOPPINGS

A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.

B. Place required dividers, edge strips, reinforcing, and other items to be cast in.

C. Apply bonding agent to substrate in accordance with manufacturer's instructions.

D. Apply sand and cement slurry coat on base course, immediately prior to placing toppings.

E. Screed toppings level, maintaining surface flatness of maximum 1:1000.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. An independent testing agency, as specified in Section 01 4000, will inspect finished slabs for compliance with specified tolerances.

B. 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).

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

D. 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.

3.07 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. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:
   1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
   2. Grout Cleaned Finish: Wet areas to be cleaned and apply grout mixture by brush or spray; scrub immediately to remove excess grout. After drying, rub vigorously with clean burlap, and keep moist for 36 hours.
   3. Cork Floated Finish: Immediately after form removal, apply grout with trowel or firm rubber float; compress grout with low-speed grinder, and apply final texture with cork float.

D. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
   1. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI PRC-302.1; thin floor coverings include carpeting, resilient flooring, and thin set ceramic tile.
   2. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

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

3.09 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - 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 three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 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.

G. Slab Testing: Cooperate with manufacturer of specified moisture vapor reducing admixture (MVRA) to allow access for sampling and testing concrete for compliance with warranty requirements.

3.10 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

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

C. 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.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.11 PROTECTION

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

END OF SECTION

SECTION 05 5213
PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall mounted aluminum handrails.

1.02 RELATED REQUIREMENTS

A. Section 09 2116 - Gypsum Board Assemblies: Placement of backing plates in stud wall construction.

B. Section 09 9000 - Painting and Coatings

1.03 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2020.

B. ASTM B241/B241M - Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube; 2022.

C. ASTM B429/B429M - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube; 2020.

D. ASTM B483/B483M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Tube and Drawn Pipe for General Purpose Applications; 2021.

E. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2021.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.05 QUALITY ASSURANCE

A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Handrails and Railings:
   1. Alumi-Guard: www.alumi-guard.com/#sle.
   2. ATR Technologies Inc; Aluminum Multi-Line Railing: http://www.atr-technologies.com/#sle.
   3. Avcon Railing Systems; Presidential Aluminum: www.avcon.com/#sle.
   4. Greco Aluminum Railings: www.grecorailings.com/#sle.
   5. Superior Aluminum Products, Inc; Series 5H Pipe Railing: www.superioraluminum.com/#sle.

B. Non-Weld Pipe Fittings:

2.02 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot (1095 N/m) applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

C. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds (890 N) applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

D. Allow for expansion and contraction of members and building movement without damage to connections or members.

E. Dimensions: See drawings for configurations and heights.
   1. Top Rails and Wall Rails: 1-1/2 inches (38 mm) diameter, round.

F. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.
   1. For anchorage to stud walls, provide backing plates, for bolting anchors.

G. Provide mechanical and welding fittings where indicated to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.03 ALUMINUM MATERIALS

A. Aluminum Pipe: Schedule 40; ASTM B429/B429M, ASTM B241/B241M, or ASTM B483/B483M.

B. Aluminum Tube: Minimum wall thickness of 0.127 inch (3.2 mm); ASTM B429/B429M, ASTM B241/B241M, or ASTM B483/B483M.

C. Non-Weld Mechanical Fittings: Slip-on cast aluminum, for Schedule 40 pipe, with flush setscrews for tightening by standard hex wrench, no bolts or screw fasteners.

D. Welding Fittings: No exposed fasteners; cast aluminum.

E. Straight Splice Connectors: Concealed spigot; cast aluminum.

F. Exposed Fasteners: No exposed bolts or screws.

2.04 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.

D. Welded Joints:
   1. Exterior Components: Continuously seal joined pieces by intermittent welds and plastic filler. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
   2. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
   3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

2.05 ALUMINUM FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils (0.018 mm) thick.

B. Touch-Up Materials: As recommended by coating manufacturer for field application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Apply one coat of bituminous paint to concealed aluminum surfaces that will be in contact with cementitious or dissimilar materials.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

C. Anchor railings securely to structure.

D. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm) per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

C. Maximum Out-of-Position: 1/4 inch (6 mm).

3.05 SCHEDULE

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

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

B. Roof-mounted curbs.

C. Roofing nailers.

D. Roofing cant strips.

E. Preservative treated wood materials.

F. Communications and electrical room mounting boards.

G. Concealed wood blocking, nailers, and supports.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

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

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2023.

D. PS 1 - Structural Plywood; 2023.

E. PS 20 - American Softwood Lumber Standard; 2021.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

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.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

C. Manufacturer Warranty: Provide two-year manufacturer warranty for delamination, warping and other failures commencing on Date of Substantial Completion.

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.

B. Provide sustainably harvested wood; see Section 01 6000 - Product Requirements for requirements.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

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

B. Moisture Content: S-dry or MC19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.

B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch (19 mm) thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

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.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 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 framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

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

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

F. Provide the following specific nonstructural framing and blocking:
   1. Cabinets and shelf supports.
   2. Wall brackets.
   3. Handrails.
   4. Grab bars.
   5. Towel and bath accessories.
   6. Wall-mounted door stops.
   7. Wall paneling and trim.
   8. Joints of rigid wall coverings that occur between studs.

3.04 ROOF-RELATED CARPENTRY

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

B. Provide wood curb at each roof opening except where specifically indicated otherwise; form corners by alternating lapping side members.

3.05 INSTALLATION OF CONSTRUCTION PANELS

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

B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

3.06 TOLERANCES

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

B. Surface Flatness of Floor: 1/8 inch in 10 feet (1 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

C. 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.

3.07 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for additional requirements.

B. Coordination of ABAA Tests and Inspections:
   1. Provide testing and inspection required by ABAA QAP.
   2. Notify in ABAA writing of schedule for air barrier work. Allow adequate time for testing and inspection.
   3. Cooperate with ABAA testing agency.
   4. Allow access to air barrier work areas and staging.
   5. Do not cover air barrier work until tested, inspected, and accepted.

3.08 CLEANING

A. Waste Disposal: See Section 01 7419 - 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 06 4100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Hardware.

D. Factory finishing.

E. Preparation for installing utilities.

1.02 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

B. ANSI A208.1 - American National Standard for Particleboard; 2022.

C. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2022.

D. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

E. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

F. BHMA A156.9 - Cabinet Hardware; 2020.

G. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. See Section 01 3100 - Administrative Requirements for submittal procedures.

C. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

D. Product Data: Provide data for hardware accessories.

E. Sustainable Design Submittal: Documentation for sustainably harvested wood-based components.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:
   1. Provide labels or certificates indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by certification program.
   3. Provide designated labels on installed products as required by certification program.
   4. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.
   5. Replace, repair, or rework all work for which certification is refused.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.07 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Faced Cabinets: Custom grade.

C. Cabinets:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Semi-Exposed Surfaces: Decorative laminate
   4. Finish - Concealed Surfaces: Manufacturer's option.
   5. Door and Drawer Front Retention Profiles: Fixed panel.
   6. Interface Style for Cabinet and Door: Style 2 - Finish Inset; reveal overlay.
   7. Cabinet Design Series: As indicated on drawings.
   8. Adjustable Shelf Loading: 40 psf (19.5 gm/sq cm).
      a. Deflection: L/144.
   9. Cabinet Style: Flush overlay.
   10. Cabinet Doors and Drawer Fronts: Flush style.
   11. Drawer Side Construction: Multiple-dovetailed.
   12. Drawer Construction Technique: Dovetail joints.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 PANEL CORE MATERIALS

A. Particleboard: Composite panel composed of cellulosic particles, additives, and bonding system; comply with ANSI A208.1.
   1. Panel Thickness: 3/4 inch (19.1 mm).

B. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.
   1. Grade: 115; moisture resistance: MR10.
   2. Panel Thickness: 3/4 inch (19.1 mm).

C. Basic Hardboard: Panel manufactured from inter-felted lignocellulosic fibers consolidated under heat and pressure; comply with ANSI A135.4.
   1. Class: Tempered.
   2. Surface: Smooth one side (S1S).
   3. Nominal Thickness: 1/4 inch (6.4 mm).

2.04 THERMALLY FUSED LAMINATE PANELS

A. Thermally Fused Laminate (TFL): Melamine- or polyester-resin-saturated decorative papers; for fusion to composite wood substrates under heat and pressure.
   1. Test in accordance with NEMA LD 3 Section 3.
   2. Panel Core Substrate: Medium Density Fiberboard (MDF).

2.05 LAMINATE MATERIALS

A. Manufacturers:

1. Formica Corporation: www.formica.com/#sle.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

C. Color / Model: Refer to Finish Schedule on Drawings

D. Provide specific types as indicated.
   1. Horizontal Surfaces: HGS, 0.048 inch (1.22 mm) nominal thickness, through color, colors as indicated, finish as indicated.
   2. Vertical Surfaces: VGS, 0.028 inch (0.71 mm) nominal thickness, through color, colors as indicated, finish as indicated.
   3. Cabinet Liner: CLS, 0.020 inch (0.51 mm) nominal thickness, through color, colors as indicated, finish as indicated.
   4. Laminate Backer: BKL, 0.020 inch (0.51 mm) nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.06 COUNTERTOPS

A. SS-01 Solid Surface; refer to Finish Schedule on Drawings for Manufacturer and Selection

2.07 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Fasteners: Size and type to suit application.

C. Concealed Joint Fasteners: Threaded steel.

D. Adjustable Drawer Organization Systems: Drawer trays, dividers, and connectors.
   1. Products:
      a. Blum, Inc; AMBIA-LINE; www.blum.com/#sle.
      b. Blum, Inc; ORGA-LINE; www.blum.com/#sle.
      c. Substitutions: See Section 01 6000 - Product Requirements.

E. Grommets: Standard painted metal grommets for cut-outs, in color to match adjacent surface.

2.08 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Metal Z-Shaped Wall Cabinet Support Clips: Paired, cleated, structural anchorage components applied to back of cabinets and walls for wall cabinet mounting.
   1. Material: Extruded Aluminum.

C. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch (25 mm) spacing adjustments.

D. Countertop Support Brackets: Fixed, L-shaped, face-of-stud mounting.
   1. Materials: Aluminum sections.
      a. Finish: Clear anodized.
      b. Height: 12 inches (300 mm).
      c. Support Length: 12 inches (300 mm).
   2. Products:
      a. A&M Hardware, Inc; Hybrid Brackets: www.aandmhardware.com/#sle.
      b. A&M Hardware, Inc; Heavy-Duty Hybrid Brackets: www.aandmhardware.com/#sle.
      c. Centerline Brackets: www.countertopbracket.com/#sle.
      d. Substitutions: See Section 01 6000 - Product Requirements.

E. Countertop Brackets: Fixed, concealed vertical leg, side-of-stud mounting.
   1. Materials: Steel L-shapes.
      a. Finish: Manufacturer's standard, factory-applied, powder coat.
      b. Color: Black.

c. Vertical Leg: 12 inches (300 mm).
d. Support Member Depth: 1 inch (25 mm).
e. Support Member Width: 1 inch (25 mm)
f. Support Member Length: 9 inches (230 mm).

2. Products:
a. A&M Hardware, Inc; Concealed Brackets: www.aandmhardware.com/#sle.
b. A&M Hardware, Inc; Concealed Flat Brackets: www.aandmhardware.com/#sle.
c. Centerline Brackets; Floating Wall Mount: www.countertopbracket.com/#sle.
d. Rakks/Rangine Corporation; Inside Wall Flush Mount Brackets: www.rakks.com/#sle.

F. Drawer and Door Pulls: "U" shaped wire pull, steel with satin finish, 4 inch centers ("U" shaped wire pull, steel with satin finish, 100 mm centers).

G. Touch-Opening Handleless Drawer Hardware:
1. Manufacturers:
a. Titus Cabinet Hardware; Tekform Slimline Tacto: www.titusplus.com/us/en/#sle.
2. Substitutions: See Section 01 6000 - Product Requirements.

H. Keyed Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

I. Cabinet Catches and Latches:
1. Type: Push latch.
2. Manufacturers:
a. Knape & Vogt Manufacturing Company: www.knapeandvogt.com/#sle.
b. Sugatsune America, Inc: www.sugatsune.com/#sle.
c. Titus Cabinet Hardware; Push Latch: www.titusplus.com/us/en/#sle.
3. Substitutions: See Section 01 6000 - Product Requirements.

J. Drawer Slides:
1. Type: Full extension with overtravel.
2. Static Load Capacity: Heavy Duty grade.
3. Mounting: Side mounted.
4. Stops: Integral type.
5. Features: Provide self closing/stay closed type.
6. Manufacturers:
a. Accuride International, Inc; Heavy-Duty Drawer Slides: www.accuride.com/#sle.
b. Blum, Inc; TANDEM: www.blum.com/#sle.
c. Knape & Vogt Manufacturing Company; Heavy-Duty Drawer Slides: www.knapeandvogt.com/#sle.
d. Substitutions: See Section 01 6000 - Product Requirements.

K. Hinges: European style concealed self-closing type, steel with nickel-plated finish.
1. Manufacturers:
a. Blum, Inc: www.blum.com/#sle.
b. Grass America Inc: www.grassusa.com/#sle.
c. Hardware Resources: www.hardwareresources.com/#sle.
d. Substitutions: See Section 01 6000 - Product Requirements.

2.09 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs. (Locate counter butt joints minimum 600 mm from sink cut-outs.)
   1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
   2. Cap exposed plastic laminate finish edges with material of same finish and pattern.

E. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches (400 mm) on center.

F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use fixture attachments in concealed locations for wall mounted components.

D. Use concealed joint fasteners to align and secure adjoining cabinet units.

E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim for this purpose.

F. Secure cabinets to floor using appropriate angles and anchorages.

3.03 ADJUSTING

A. Adjust installed work.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 07 0553
FIRE AND SMOKE ASSEMBLY IDENTIFICATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Identification markings for fire and smoke rated partitions, and fire rated walls.

1.02 RELATED REQUIREMENTS

A. Section 09 9123 - Interior Painting: Paint finish.

1.03 REFERENCE STANDARDS

A. 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 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed product literature for each type of marking, indicating font, foreground and background colors, wording, and overall dimensions.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 FIELD CONDITIONS

A. Do not install adhered markings when ambient temperature is lower than recommended by label or sign manufacturer.

B. Do not install painted markings when ambient temperature is lower than recommended by coating manufacturer.

PART 2 PRODUCTS

2.01 FIRE AND SMOKE ASSEMBLY IDENTIFICATION

A. Regulatory Requirements: Comply with "Marking and Identification" requirements of "Fire-Resistance Ratings and Fire Tests" chapter of ICC (IBC).

B. Adhered Fire and Smoke Assembly Identification Signs: Printed vinyl sign with factory applied adhesive backing.

C. Applied Fire and Smoke Assembly Identification: Identification markings applied to partition with paint and a code compliant stencil. See Section 09 9123 for products.

D. Languages: Provide sign markings in English.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 PREPARATION

A. See Section 09 9123 for substrate preparation for painted markings.

3.03 INSTALLATION

A. Locate markings as required by ICC (IBC).

B. Install adhered markings in accordance with manufacturer's instructions.

C. Install applied markings in accordance with Section 09 9123.

D. Install neatly, with horizontal edges level.

E. Protect from damage until Date of Substantial Completion; repair or replace damaged markings.

END OF SECTION

SECTION 07 2100
WOOD FIBER INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Section Includes:
   1. Wood fiber batt insulation. (TimberBatt)

1.02 RELATED SECTIONS

A. Section 06 1000 - Rough Carpentry.

B. 09 2116 - Gypsum Board Assemblies

1.03 REFERENCES

A. ASTM International (ASTM):
   1. ASTM C 739 - Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.
   2. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Code of Federal Regulations (CFR)
   1. CFR 16 Part 1209 Interim Safety Standard for Cellulose Insulation.

1.04 SUBMITTALS

A. Submit under provisions of Section 01 3000.

B. Product Data:
   1. Manufacturer's data sheets on each product to be used.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Typical installation methods.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing wood fiber products specified in this section, with products meeting CFR and ASTM Standard. Company shall have an established quality control program ensures raw material, individual manufacturing steps, and final product testing meet quality control standards to manufacturer a reliable and consistent product.

B. Installer Qualifications: Minimum two years experience installing insulation.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

D. Acoustic Performance: STC and OITC assembly ratings as published by TimberHP and as documented by Riverbank Acoustical Laboratories based on assembly, assembly as applicable to the project.
   1. STC 46, OITC 30, RAL TL23-008: Single Layer Of 5/8" Type X Gypsum Board on Both Sides, 3-5/8" Metal Studs 16" o.c. TimberBatt acoustic, Single Layer of 5/8" Type X Gypsum Board on Both Sides.

E. Mock-Up: Construct an in-place mock-up of the exterior wall with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect.
   1. Intent of mock-up is to demonstrate quality of workmanship and relationship between different materials.
   2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.

1.06 PRE-INSTALLATION CONFERENCE

A. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions and insulation manufacturer's installation instructions.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store and handle products per manufacturer's instructions until ready for installation.

1.08 PROJECT CONDITIONS

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

1.09 WARRANTY

A. Insulation Warranty: At project closeout, submit to Owner an executed copy of the manufacturer's standard limited warranty against manufacturing defects.

1.10 REFERENCE STANDARDS

A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.

B. ASTM C739 - Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation; 2021a.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: TimberHP, which is located at: 1 Main St. P. O. Box 119; Madison, ME 04950; Toll Free Tel: 855-755-1359; Email: request info (info@timberhp.com); Web: https://timberhp.com

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.02 WOOD FIBER BATT INSULATION

A. Wood Fiber Batt Insulation: TimberBatt by TimberHP with the following attributes.
   1. Description: Press-fit batt insulation for wood frame and steel stud cavities.
   2. Contents: Wood fibers, polyamide fibers, boric acid.
   3. Sustainability: FSC-certified softwood.
   4. R-Value: 4.0 per inch.
   5. Vapor Permeability: 46 perm-inch.
   6. Acoustic Performance: NRC 1.15 at 5-1/2 inches (140 mm) thick.
   7. Fire Protection: ASTM E84 Class A flame spread and smoke developed.
   8. Standards: Meets applicable ASTM C739 requirements - Standard Specification for Cellulosic Fiber-Fill Thermal Insulation.
   9. Wall Batt R-Value: R-14, 3.5 inches (88.9mm) thickness.
   10. Batt Width, Steel Studs: 16 inches (406.4mm) and 24 inches (mm).
   11. Batt Length, Steel Studs: 48 inches (609.6mm).

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly constructed and prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

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

3.03 INSTALLATION

A. Install products in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
   1. Install insulation that is dry and undamaged.
   2. Cut and fit insulation tightly around obstructions.
   3. Install continuously, without gaps.

3.04 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturers recommendations.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 07 8400
FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of joints and penetrations in fire-resistance-rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 RELATED REQUIREMENTS

A. Section 07 0553 - Fire and Smoke Assembly Identification.

1.03 REFERENCE STANDARDS

A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.

B. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2023a.

C. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems; 2015 (Reapproved 2019).

D. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems; 2020a.

E. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers; 2020a.

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

G. FM (AG) - FM Approval Guide; Current Edition.

H. UL 1479 - Standard for Fire Tests of Penetration Firestops; Current Edition, Including All Revisions.

I. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems; Current Edition, Including All Revisions.

J. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

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

C. Sustainable Design Submittal: Submit VOC content documentation for nonpreformed materials.

D. Certificate from authority having jurisdiction indicating approval of materials used.

E. Manufacturer's qualification statement.

F. Installer's qualification statement.

1.05 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Trained by manufacturer.
   2. Verification of minimum three years documented experience installing work of this type.

1.06 MOCK-UPS

A. See Section 01 4000 - Quality Requirements for additional requirements.

B. Install one firestopping assembly representative of each fire rating design required on project.
   1. Where one design may be used for different penetrating items or in different wall constructions, install one assembly for each different combination.

C. If accepted, mock-up will represent minimum standard for this work.

D. If accepted, mock-up may remain as part of this work. Remove and replace mock-ups not accepted.

1.07 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Firestopping Manufacturers:
   1. A/D Fire Protection Systems Inc: www.adfire.com/#sle.
   2. Hilti, Inc: www.hilti.com/#sle.
   3. HoldRite, a Brand of Reliance Worldwide Corporation; HydroFlame 100 Intumescent Firestop Sealant: www.holdrite.com/#sle.
   4. RectorSeal, a CSW Industrials Company; Metacaulk 150+ General Purpose Firestop Sealant: www.rectorseal.com/firestop-solutions/#sle.
   5. Tremco Commercial Sealants & Waterproofing; TREMstop Acrylic: www.tremcosealants.com/#sle.
   6. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

B. Fire Ratings: Refer to drawings for required systems and ratings.

2.03 FIRESTOPPING ASSEMBLY REQUIREMENTS

A. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.
   1. Air Leakage: Provide systems that have been tested to show L Rating as indicated.
   2. Watertightness: Provide systems that have been tested to show W Rating as indicated.

B. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.

2.04 FIRESTOPPING FOR FLOOR-TO-FLOOR, FLOOR-TO-WALL, HEAD-OF-WALL, AND WALL-TO-WALL JOINTS

A. Gypsum Board Walls:
   1. Wall-to-Wall Joints That Have Not Been Tested For Movement Capabilities (Static-S):
      a. 1 Hour Construction: UL System WW-S-0063; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
   2. Wall-to-Wall Joints That Have Movement Capabilities (Dynamic-D):
      a. 1 Hour Construction: UL System WW-D-0067; Hilti CP 606 Flexible Firestop Sealant.
   3. Head-of-Wall Joints at Underside of Steel Beam and Concrete Over Metal Deck Floor with Sprayed On Fireproofing:
      a. 1 Hour Construction: UL System HW-D-0259; Hilti CFS-SP WB Firestop Joint Spray and CP 672.

4. Head-of-Wall Joints at Underside of Flat Concrete:
    a. 1 Hour Construction: UL System HW-D-0689; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
    b. 1 Hour Construction: UL System HW-D-0696; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
    c. 1 Hour Construction: UL System HW-D-1068; Hilti CFS-SP WB Firestop Joint Spray and CP 672.
    d. 1 Hour Construction: UL System HW-D-0757; Hilti CFS-TTS Top Track Seal.
    e. 1 Hour Construction: UL System HW-D-0016; Tremco, TREMstop Acrylic Firestop Sealant.
5. Head-of-Wall Joints at Concrete Over Metal Deck:
    a. 1 Hour Construction: UL System HW-D-0034; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
    b. 1 Hour Construction: UL System HW-D-0099; Specified Technologies Inc. SpeedFlex Joint Profile System.
    c. 1 Hour Construction: UL System HW-D-0363; Specified Technologies Inc. SpeedFlex Joint Profile System.
    d. 1 Hour Construction: UL System HW-D-0365; Specified Technologies Inc. SpeedFlex Joint Profile System.
    e. 1 Hour Construction: UL System HW-D-0548; Specified Technologies Inc. SpeedFlex Joint Profile System.
    f. 1 Hour Construction: UL System HW-D-0749; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
    g. 1 Hour Construction: UL System HW-D-0256; Tremco, TREMstop Acrylic Firestop Sealant.
6. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Parallel to Ribs:
    a. 1 Hour Construction: UL System HW-D-0049; Hilti CFS-SP WB Firestop Joint Spray and CP 672.
    b. 1 Hour Construction: UL System HW-D-0184; Hilti CP 606 Flexible Firestop Sealant.
7. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Perpendicular to Ribs, Cut to Fit Ribs:
    a. 1 Hour Construction: UL System HW-D-0045; Hilti CP 606 Flexible Firestop Sealant.
8. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Perpendicular to Ribs, Not Cut to Fit:
    a. 1 Hour Construction: UL System HW-D-0042; Hilti CFS-SP WB Firestop Joint Spray and CP 672.
    b. 1 Hour Construction: UL System HW-D-0045; Hilti CP 606 Flexible Firestop Sealant.

2.05 FIRESTOPPING PENETRATIONS THROUGH CONCRETE AND CONCRETE MASONRY CONSTRUCTION

A. Penetrations Through Floors or Walls By:
    1. Uninsulated Metallic Pipe, Conduit, and Tubing:
        a. 1 Hour Construction: UL System C-AJ-1039; RectorSeal MetaCaulk 950.
    2. Uninsulated Non-Metallic Pipe, Conduit, and Tubing:

B. Penetrations Through Walls By:
    1. Uninsulated Metallic Pipe, Conduit, and Tubing:
        a. 1 Hour Construction: UL System W-J-1067; Hilti FS-ONE MAX Intumescent Firestop Sealant.
    2. Insulated Pipes:
        a. 1 Hour Construction: UL System C-AJ-5091; Hilti FS-ONE MAX Intumescent Firestop Sealant.

2.06 FIRESTOPPING PENETRATIONS THROUGH GYPSUM BOARD WALLS

A. Blank Openings:
   1. 1 Hour Construction: UL System W-L-0032; Specified Technologies Inc. FP Intumescent Firestop Plug.
   2. 1 Hour Construction: UL System W-L-0038; Specified Technologies Inc. FP Intumescent Firestop Plug.
   3. 1 Hour Construction: UL System W-L-3334; Hilti CP 653 Speed Sleeve.

B. Penetrations By:
   1. Multiple Penetrations in Large Openings:
      a. 1 Hour Construction: UL System W-L-1408; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      b. 1 Hour Construction: UL System W-L-8013; Hilti CFS-BL Firestop Block.
      c. 1 Hour Construction: UL System W-L-8025; Specified Technologies Inc. LCI Intumescent Firestop Sealant.
      d. 1 Hour Construction: UL System W-L-8050; Specified Technologies Inc. SSB Intumescent Firestop pillows.
      e. 1 Hour Construction: UL System W-L-8071; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      f. 1 Hour Construction: UL System W-L-8079; Hilti FS-ONE MAX Intumescent Firestop Sealant.
   2. Uninsulated Metallic Pipe, Conduit, and Tubing:
      a. 1 Hour Construction: UL System W-L-1042; Specified Technologies Inc. WF300 Intumescent Firestop Caulk (For Wood Frame Construction).
      b. 1 Hour Construction: UL System W-L-1054; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      c. 1 Hour Construction: UL System W-L-1164; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      d. 1 Hour Construction: UL System W-L-1477; Specified Technologies Inc. EZ Firestop Grommet.
      e. 1 Hour Construction: UL System W-L-1506; Hilti CFS-D Firestop Cable Disc.
   3. Uninsulated Non-Metallic Pipe, Conduit, and Tubing:
      a. 1 Hour Construction: UL System W-L-2048; Specified Technologies Inc. SSW Wrap Strips.
      b. 1 Hour Construction: UL System W-L-2074; Specified Technologies Inc. SSC Collars.
      c. 1 Hour Construction: UL System W-L-2078; Hilti CP 643N/644 Firestop Collar.
      d. 1 Hour Construction: UL System W-L-2128; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      e. 1 Hour Construction: UL System W-L-2237; Specified Technologies Inc. LCC Intumescent Firestop Collars.
      f. 1 Hour Construction: UL System W-L-2241; Specified Technologies Inc. WF300 Intumescent Firestop Caulk (For Wood Frame Construction).
   4. Insulated Pipes:
      a. 1 Hour Construction: UL System W-L-5014; Specified Technologies Inc. SSS Intumescent Firestop Sealant.
      b. 1 Hour Construction: UL System W-L-5028; Hilti FS-ONE MAX Intumescent Firestop Sealant.
      c. 1 Hour Construction: UL System W-L-5029; Hilti FS-ONE Intumescent Firestop Sealant.
      d. 1 Hour Construction: UL System W-L-5121; Specified Technologies Inc. LCI Intumescent Firestop Sealant.

e. 1 Hour Construction: UL System W-L-5298; Specified Technologies Inc. WF300 Intumescent Firestop Caulk (For Wood Frame Construction).

5. HVAC Ducts, Insulated:
   a. 1 Hour Construction: UL System W-L-7164; Specified Technologies Inc. FyreFlange HVAC Firestop Angle.
   b. 1 Hour Construction: UL System W-L-7238; Specified Technologies Inc. FyreFlange HVAC Firestop Angle.
   c. 1 Hour Construction: UL System W-L-7156; Hilti FS-ONE MAX Intumescent Firestop Sealant.

2.07 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: Use system that is listed by FM (AG), ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814, ASTM E119, or UL 1479 with F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.

B. Remove incompatible materials that could adversely affect bond.

3.03 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by Owner's Independent Testing Agency.

C. Do not cover installed firestopping until inspected by authorities having jurisdiction.

D. Install labeling required by code.

3.04 FIELD QUALITY CONTROL

A. Independent Testing Agency: Inspection agency employed and paid by Owner, will examine penetration firestopping in accordance with ASTM E2174 and ASTM E2393.

B. Repair or replace penetration firestopping and joints at locations where inspection results indicate firestopping or joints do not meet specified requirements.

3.05 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.06 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

SECTION 07 9005
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

1.02 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping: Firestopping sealants.

B. Section 07 6200 - Sheet Metal Flashing and Trim: Requirements for sealants required in conjunction with elements identified in that section.

C. Section 08 8000 - Glazing: Glazing sealants and accessories.

1.03 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2014.

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

E. ASTM D1667 - Standard Specification for Flexible Cellular Materials--Poly(Vinyl Chloride) Foam (Closed-Cell); 2005 (Reapproved 2011).

1.04 SUBMITTALS

A. See Section 01 3000 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.

B. Product Data: Provide Data indicating sealant chemical characteristics.

C. Samples: Submit two samples, 1"x1" size illustrating sealant colors for selection.

1.05 MOCK-UP

A. Provide mock-up of sealant joints in conjunction with window and wall under provisions of Section 01 4000. Mock-up may remain a part of the work.

B. Construct mock-up with specified sealant types and with other components noted.

C. Locate where approved.

D. Mock-up may remain as part of the Work

1.06 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07 COORDINATION

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

1.08 WARRANTY

A. See Section 01 7000 - Closeout, for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

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

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Silicone Sealants:
   1. Bostik Inc : www.bostik-us.com.

2. Momentive Performance Materials, Inc : www.momentive.com.
3. Dow Corning Corp : www.dowcorning.com.
4. Pecora Corporation : www.pecora.com.
5. BASF Construction Chemicals-Building Systems : www.buildingsystems.basf.com.
6. Tremco, Inc : www.tremcosealants.com.
7. Sherwin-Williams Company : www.shermin-williams.com
8. Sika : www.sikacorp.com
9. Substitutions: See Section 01 6000 - Product Requirements.

B. Polyurethane Sealants:
1. Bostik Inc : www.bostik-us.com.
2. Pecora Corporation : www.pecora.com.
3. BASF Construction Chemicals-Building Systems : www.buildingsystems.basf.com.
4. Tremco, Inc : www.tremcosealants.com.
5. Morton International, Inc .
6. Pecora Corporation : www.pecora.com.
7. BASF Construction Chemicals-Building Systems : www.chemrex.com.
8. Substitutions: See Section 01 6000 - Product Requirements.

C. Acrylic Sealants (ASTM C920):
1. Tremco Global Sealants : www.tremcosealants.com.
2. Substitutions: See Section 01 6000 - Product Requirements.

D. Butyl Sealants:
1. Bostik Inc : www.bostik-us.com.
2. Pecora Corporation : www.pecora.com.
3. Tremco, Inc : www.tremcosealants.com.
4. Substitutions: See Section 01 6000 - Product Requirements.

E. Acrylic Emulsion Latex Sealants:
1. Bostik Inc : www.bostik-us.com.
2. Pecora Corporation : www.pecora.com.
3. BASF Construction Chemicals-Building Systems : www.buildingsystems.basf.com.
4. Tremco, Inc : www.tremcosealants.com.
5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SEALANTS

A. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, nondrying, nonskinning, noncuring.
1. Applications: Use for:
a. Concealed sealant bead in sheet metal work.
b. Concealed sealant bead in flashing overlaps.

B. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
1. Color: Standard colors matching finished surfaces.
2. Applications: Use for:
a. Interior wall and ceiling control joints.
b. Joints between door and window frames and wall surfaces.
c. Other interior joints for which no other type of sealant is indicated.

C. Tile Sealant: White silicone; ASTM C920, Uses I, M and A; single component, mildew resistant.
1. Applications: Use for:
a. Joints between plumbing fixtures and floor and wall surfaces.

D. Acoustical Sealant for Concealed Locations:
1. Composition: Permanently tacky non-hardening butyl sealant.

2. Applications: Use for concealed locations only:
    a. Sealant bead between top stud runner and structure and between bottom stud track and floor.

E. Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C920, Grade P, Class 25, Uses T, M and A; single component.
1. Approved by manufacturer for wide joints up to 1-1/2 inches.
2. Color: Standard colors matching finished surfaces.
3. Applications: Use for:
    a. Expansion joints in floors.

F. Hybrid Sealant option: Sily-Terminated Ether: Hybrid type sealants are acceptable except for structural glazing and may be substituted upon approval for selected sealants above when suitable for the application. Submit hybrid data and specified sealant for comparison of properties when request is submitted.

2.03 ACCESSORIES

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

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

C. Joint Backing: Round foam rod compatible with sealant; ASTM D1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

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

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

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

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

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

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

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

3.03 INSTALLATION

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

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve the following , unless otherwise indicated:
1. Width/depth ratio of 2:1.
2. Neck dimension no greater than 1/3 of the joint width.
3. Surface bond area on each side not less than 75 percent of joint width.

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

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

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

H. Tool joints concave.

I. Tape off each side of joint when needed to hold straight crisp line and true joint. Remove when overage separates cleanly from sealant bed without separating sealant remaining in joint from edge of joint.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured. Contamination by excessive dust accumulation into surface which cannot be removed due to dust embedment sealant surface film before it is cured will be cause for rejection of sealant and require re-application / correction at substantial completion.

END OF SECTION

SECTION 081113
HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Standard and custom hollow metal doors and frames.
2. Steel sidelight, borrowed lite and transom frames.
3. Louvers installed in hollow metal doors.
4. Light frames and glazing installed in hollow metal doors.

B. Related Sections:

1. Division 01 Section "General Conditions".
2. Division 04 Section "Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
3. Division 08 Section “Flush Wood Doors”.
4. Division 08 Section "Glazing" for glass view panels in hollow metal doors.
5. Division 08 Section "Door Hardware".
6. Division 08 Section "Access Control Hardware".
7. Division 09 Sections "Exterior Painting" and "Interior Painting" for field painting hollow metal doors and frames.

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.

7. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
9. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
10. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.
11. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
12. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
13. ANSI/NFPA 105: Standard for the Installation of Smoke Door Assemblies.
14. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
15. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
16. UL 1784 - Standard for Air Leakage Tests of Door Assemblies.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.

B. Quality Standard: In addition to requirements specified, furnish SDI-Certified manufacturer products that comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL10C (neutral pressure at 40” above sill) or UL 10C.

1. Oversize Fire-Rated Door Assemblies Construction: For units exceeding sizes of tested assemblies, attach construction label certifying doors are built to standard construction requirements for tested and labeled fire rated door assemblies except for size.
2. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwell openings) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.
3. Smoke Control Door Assemblies: Comply with NFPA 105.

    a. Smoke "S" Label: Doors to bear “S” label, and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.

D. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257. Provide labeled glazing material.

E. Storm Shelter Openings: Provide complete door systems for hurricane or tornado storm shelters, and other areas of refuge, complying and tested according to ICC 500 (2014/2020), ICC/NSSA Standard for the Design and Construction of Storm Shelters.

1. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

F. Pre-Submittal Conference: Conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.

1. Provide minimum 1/4-inch space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.6 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Building Information Modeling (BIM) Support: Utilize designated BIM software tools and obtain training needed to successfully participate in the Project BIM processes. All technical disciplines are responsible for the product data integration and data reliability of their Work into the coordinated BIM applications.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide steel doors and frames from a SDI Certified manufacturer:

1. CECO Door Products (C).
2. Curries Company (CU).

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

2.3 HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

B. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.

1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Frames: Minimum 16 gauge (0.053-inch -1.3-mm) thick steel sheet.
3. Manufacturers Basis of Design:

a. Curries Company (CU) - M Series.

C. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

2.4 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.

B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.

C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.5 LOUVERS

A. Metal Louvers: Unless otherwise indicated provide louvers to meet the following requirements.

1. Blade Type: Vision proof inverted V or inverted Y.
2. Metal and Finish: Galvanized steel, 0.040 inch thick, factory primed for paint finish with baked enamel or powder coated finish. Match pre-finished door paint color where applicable.

B. Louvers for Fire Rated Doors: Metal louvers with fusible link and closing device, listed and labeled for use in doors with fire protection rating of 1-1/2 hours and less.

1. Manufacturers: Subject to compliance with requirements, provide louvers to meet rating indicated.
2. Metal and Finish: Galvanized steel, 0.040 inch thick, factory primed for paint finish with baked enamel or powder coated finish. Match pre-finished door paint color where applicable.

2.6 LIGHT OPENINGS AND GLAZING

A. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator's shop. Fixed and removable stops to allow multiple glazed lites each to be removed independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames.

C. Preformed Metal Frames for Light Openings: Manufacturer's standard frame formed of 0.048-inch-thick, cold rolled steel sheet; with baked enamel or powder coated finish; and approved for use in doors of fire protection rating indicated. Match pre-finished door paint color where applicable.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.8 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.

C. Hollow Metal Frames:

1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
2. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.

    a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.

3. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
4. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
5. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge straps for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
6. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
7. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.

8. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
9. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches on-center and as follows:

        1) Two anchors per jamb up to 60 inches high.
        2) Three anchors per jamb from 60 to 90 inches high.
        3) Four anchors per jamb from 90 to 120 inches high.
        4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

    b. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

        1) Three anchors per jamb up to 60 inches high.
        2) Four anchors per jamb from 60 to 90 inches high.
        3) Five anchors per jamb from 90 to 96 inches high.
        4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
        5) Two anchors per head for frames above 42 inches wide and mounted in metal stud partitions.
10. Door Silencers: Except on weatherstripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
11. Bituminous Coating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, coat inside of frame throat with a water based bituminous or asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.

D. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

2.9 STEEL FINISHES

A. Prime Finishes: Doors and frames to be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the door and frame exposed to view to receive a factory applied coat of rust inhibiting shop primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; and compatible with substrate and field-applied coatings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).

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

3.2 PREPARATION

A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.

C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."

D. Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

E. Verify tolerances against manufacturers installations instructions for tornado and hurricane storm shelter openings.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11 and NFPA 80 at fire rated openings.

1. Set frames accurately in position, plumbed, leveled, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar.
4. Grout Requirements: Do not grout head of frames unless reinforcing has been installed in head of frame. Do not grout vertical or horizontal closed mullion members.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

3.5 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

END OF SECTION 081113

SECTION 08 1216
INFRAME INTERIOR FRAMING SYSTEM

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
   1. Types of Kawneer Aluminum Storefront Systems include:
      a. InFrame® Interior Framing System - 2" x 6" (50.8 x 152.4) nominal dimension; Non-Thermal; Center Glazed, Screw Spline, Punched Opening Fabrication.

B. Related Sections:
   1. 07 9005 - Joint Sealants
   2. 08 1416 - Flush Wood Doors
   3. 08 4227 - Frameless Sliding Glass Doors
   4. 08 7100 - Door Hardware
   5. 08 8000 - Glazing

C. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufacturers Association (AAMA) – AAMA Glossary (AAMA AG).

D. Storefront System Performance Requirements: Interior framing system.

E. Environmental Product Declaration (EPD): Shall have a Type III Product-Specific EPD created from a Product Category Rule.

F. Material Ingredient Reporting: Shall have a complete list of chemical ingredients to at least 100ppm (0.01%) that covers 100% of the product, acceptable documentation includes:
   1. Manufacturer's inventory with Chemical Abstract Service Registration Number (CASRN or CAS#).
      a. Kawneer's Material Transparency Summary (MTS).
      b. Submittals

G. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum frames indicated.
   1. Recycled Content:
   2. Material Ingredient Reporting:
      a. Include documentation for material reporting that has a complete list of chemical ingredients to at least 100ppm (0.01%) that covers 100% of the product.

H. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

I. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

J. Samples for Verification: For aluminum frames and components required.

K. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum frames, made from 12" (304.8 mm) lengths of full-size components and showing details of the following:
   1. Joinery, including concealed welds.
   2. Anchorage.
   3. Expansion provisions.
   4. Glazing.

5. Flashing and drainage.

L. Other Action Submittals:
   1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of providing aluminum frames that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.

C. Source Limitations: Obtain aluminum frames through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum frames and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.
   1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Build mockup for type(s) of storefront elevation(s) indicated, in location(s) shown on Drawings.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination”.

G. Project Conditions

H. Field Measurements: Verify actual dimensions of aluminum frame openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.04 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty.

B. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

1.05 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2020.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis-of-design Product:
   1. Kawneer Company Inc.

2. InFrame® Interior Framing System (Non-Thermal)
3. System Dimensions: 2" x 6" (50.8 x 152.4) nominal dimension
4. Glass: Center Plane

B. Substitutions: Refer to Substitutions Section for procedures and submission requirements.
1. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
2. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid storefront installation and construction delays.
3. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
4. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum storefront for a period of not less than ten (10) years. (Company Name)
5. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

C. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.02 MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" (1.8 mm) wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum framing members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

E. Sealant: For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

F. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

G. Red List Free: All parts and materials comply with the Living Building Challenge/DECLARE Red List and the Cradle-to-Cradle (C2C) Banned List.

H. Red List Free: Product does not contain PVC or Neoprene.

STOREFRONT FRAMING SYSTEM

A. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

B. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.

C. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action

D. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

E. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.03 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section “Joint Sealants”.

F. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30 mil (0.762 mm) thickness per coat.

2.04 FABRICATION

A. Extrude aluminum shapes before finishing.

B. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
   1. Profiles that are sharp, straight, and free of defects or deformations.
   2. Accurately fit joints; make joints flush, hairline and weatherproof.
   3. Physical and thermal isolation of glazing from framing members.
   4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
   5. Provisions for field replacement of glazing.
   6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

D. Storefront Framing: Fabricate components for assembly using manufacturer’s standard installation instructions.
   1. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.05 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes:

B. Factory Finishing
   1. Kawneer Permanodic® AA-M10C21A41, AAMA 611, Architectural Class I Clear Anodic Coating (Color #14 Clear) .

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and

operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight aluminum frame installation.

1. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
2. Proceed with installation only after unsatisfactory conditions have been corrected.
    a. Installation

B. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum framed storefront system, accessories, and other components.

C. Install aluminum framed storefront system level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.02 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

B. Adjusting, Cleaning, and Protection

C. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

D. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

E. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

SECTION 08 1216
INFRAME INTERIOR FRAMING SYSTEM

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
   1. Types of Kawneer Aluminum Storefront Systems include:
      a. InFrame® Interior Framing System - 2" x 6" (50.8 x 152.4) nominal dimension; Non-Thermal; Center Glazed, Screw Spline, Punched Opening Fabrication.

B. Related Sections:
   1. 07 9005 - Joint Sealants
   2. 08 1416 - Flush Wood Doors
   3. 08 4227 - Frameless Sliding Glass Doors
   4. 08 7100 - Door Hardware
   5. 08 8000 - Glazing

C. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufacturers Association (AAMA) – AAMA Glossary (AAMA AG).

D. Storefront System Performance Requirements: Interior framing system.

E. Environmental Product Declaration (EPD): Shall have a Type III Product-Specific EPD created from a Product Category Rule.

F. Material Ingredient Reporting: Shall have a complete list of chemical ingredients to at least 100ppm (0.01%) that covers 100% of the product, acceptable documentation includes:
   1. Manufacturer's inventory with Chemical Abstract Service Registration Number (CASRN or CAS#).
      a. Kawneer's Material Transparency Summary (MTS).
      b. Submittals

G. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum frames indicated.
   1. Recycled Content:
   2. Material Ingredient Reporting:
      a. Include documentation for material reporting that has a complete list of chemical ingredients to at least 100ppm (0.01%) that covers 100% of the product.

H. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

I. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

J. Samples for Verification: For aluminum frames and components required.

K. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum frames, made from 12" (304.8 mm) lengths of full-size components and showing details of the following:
   1. Joinery, including concealed welds.
   2. Anchorage.
   3. Expansion provisions.
   4. Glazing.
   5. Flashing and drainage.

L. Other Action Submittals:

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of providing aluminum frames that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.

C. Source Limitations: Obtain aluminum frames through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum frames and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.
   1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Build mockup for type(s) of storefront elevation(s) indicated, in location(s) shown on Drawings.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination”.

G. Project Conditions

H. Field Measurements: Verify actual dimensions of aluminum frame openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.04 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty.

B. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

1.05 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2020.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis-of-design Product:
   1. Kawneer Company Inc.
   2. InFrame® Interior Framing System (Non-Thermal)
   3. System Dimensions: 2" x 6" (50.8 x 152.4) nominal dimension
   4. Glass: Center Plane

B. Substitutions: Refer to Substitutions Section for procedures and submission requirements.

1. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
2. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid storefront installation and construction delays.
3. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
4. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum storefront for a period of not less than ten (10) years. (Company Name)
5. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

C. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.02 MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" (1.8 mm) wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum framing members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

E. Sealant: For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

F. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

G. Red List Free: All parts and materials comply with the Living Building Challenge/DECLARE Red List and the Cradle-to-Cradle (C2C) Banned List.

H. Red List Free: Product does not contain PVC or Neoprene.

STOREFRONT FRAMING SYSTEM

I. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

J. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.

K. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action

L. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

M. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.03 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section “Joint Sealants”.

F. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30 mil (0.762 mm) thickness per coat.

2.04 FABRICATION

A. Extrude aluminum shapes before finishing.

B. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
   1. Profiles that are sharp, straight, and free of defects or deformations.
   2. Accurately fit joints; make joints flush, hairline and weatherproof.
   3. Physical and thermal isolation of glazing from framing members.
   4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
   5. Provisions for field replacement of glazing.
   6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

D. Storefront Framing: Fabricate components for assembly using manufacturer’s standard installation instructions.
   1. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.05 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes:

B. Factory Finishing
   1. Kawneer Permanodic® AA-M10C21A41, AAMA 611, Architectural Class I Clear Anodic Coating (Color #14 Clear) .

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight aluminum frame installation.
   1. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
   2. Proceed with installation only after unsatisfactory conditions have been corrected.
      a. Installation

B. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum framed storefront system, accessories, and other components.

C. Install aluminum framed storefront system level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.02 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

B. Adjusting, Cleaning, and Protection

C. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

D. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

E. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

SECTION 08 1416
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush and flush glazed configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Section 08 1213 - Hollow Metal Frames.

B. Section 08 7100 - Door Hardware.

C. Section 08 8000 - Glazing.

1.03 REFERENCE STANDARDS

A. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

D. Samples: Submit two samples of door veneer, 6 by 6 inches (50 by 50 mm) in size illustrating wood grain, stain color, and sheen.

E. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

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

G. Installer's qualification statement.

H. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

C. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

D. Woodwork Quality Assurance Program:
   1. Provide labels indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by quality assurance program.
   3. Provide designated labels on installed products as required by quality assurance program.

4. Submit documentation upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide manufacturer's warranty on interior doors for the life of the installation. Complete forms in Owner's name and register with manufacturer.
   1. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Masonite Architectural; Aspiro Select Wood Veneer Doors: www.architectural.masonite.com/#sle.
   2. Lynden Doors: www.lyndendoors.com
   3. VT Industries, Inc: www.vtindustries.com/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOORS AND PANELS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Extra Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: White oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Any option allowed by quality standard for grade.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:
   1. Provide solid blocks at lock edge for hardware reinforcement.
   2. Provide solid blocking for other throughbolted hardware.

C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

E. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. Transparent Finish: Transparent catalyzed polyurethane, Custom quality, Satin sheen..
      b. Stain: As selected by Architect.

2.07 ACCESSORIES

A. Hollow Metal Door Frames: See Section 08 1213.

B. Glazed Openings:
   1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
   2. Glazing: Single vision units, 1/4 inch (6.4 mm) thick glass.
   3. Tint: Clear.

C. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

D. Door Hardware: See Section 08 7100.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Field-Finished Doors: Trimming to fit is acceptable.
   1. Adjust width of non-rated doors by cutting equally on both jamb edges.
   2. Trim maximum of 3/4 inch (19 mm) off bottom edges.

D. Use machine tools to cut or drill for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

F. Coordinate installation of glazing.

3.03 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

C. Maximum Vertical Distortion (Bow): 1/8 inch (3 mm) measured with straight edge or taut string, top to bottom, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.

D. Maximum Width Distortion (Cup): 1/8 inch (3 mm) measured with straight edge or taut string, edge to edge, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION

SECTION 08 1416
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush and flush glazed configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Section 08 1213 - Hollow Metal Frames.

B. Section 08 7100 - Door Hardware.

C. Section 08 8000 - Glazing.

1.03 REFERENCE STANDARDS

A. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

D. Samples: Submit two samples of door veneer, 6 by 6 inches (50 by 50 mm) in size illustrating wood grain, stain color, and sheen.

E. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

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

G. Installer's qualification statement.

H. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

C. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

D. Woodwork Quality Assurance Program:
   1. Provide labels indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by quality assurance program.
   3. Provide designated labels on installed products as required by quality assurance program.
   4. Submit documentation upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide manufacturer's warranty on interior doors for the life of the installation. Complete forms in Owner's name and register with manufacturer.
   1. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Masonite Architectural; Aspiro Select Wood Veneer Doors: www.architectural.masonite.com/#sle.
   2. Lynden Doors: www.lyndendoors.com
   3. VT Industries, Inc: www.vtindustries.com/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOORS AND PANELS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Extra Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: White oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Any option allowed by quality standard for grade.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:
   1. Provide solid blocks at lock edge for hardware reinforcement.
   2. Provide solid blocking for other throughbolted hardware.

C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

E. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. Transparent Finish: Transparent catalyzed polyurethane, Custom quality, Satin sheen..
      b. Stain: As selected by Architect.

2.07 ACCESSORIES

A. Hollow Metal Door Frames: See Section 08 1213.

B. Glazed Openings:
   1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
   2. Glazing: Single vision units, 1/4 inch (6.4 mm) thick glass.
   3. Tint: Clear.

C. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

D. Door Hardware: See Section 08 7100.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Field-Finished Doors: Trimming to fit is acceptable.
   1. Adjust width of non-rated doors by cutting equally on both jamb edges.
   2. Trim maximum of 3/4 inch (19 mm) off bottom edges.

D. Use machine tools to cut or drill for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

F. Coordinate installation of glazing.

3.03 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

C. Maximum Vertical Distortion (Bow): 1/8 inch (3 mm) measured with straight edge or taut string, top to bottom, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.

D. Maximum Width Distortion (Cup): 1/8 inch (3 mm) measured with straight edge or taut string, edge to edge, over an imaginary 36 by 84 inches (915 by 2130 mm) surface area.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION

SECTION 08 4126
ALL GLASS ENTRANCE AND STOREFRONT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Interior sliding all-glass entrance doors.
   2. All-glass [sidelights] [and] [transoms].
   3. All-glass sidelights
   4. Interior all-glass storefronts.

1.03 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.04 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.

B. Sustainable Design Submittals:
   1. Product Data: For sealants, indicating VOC content.
   2. Laboratory Test Reports: For sealants, indicating compliance with requirements for low-emitting materials.
   3. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
   4. Product Certificates: For materials manufactured within 100 miles (160 km) of Project, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each raw material.
   5. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each regional material.
   6. Environmental Product Declaration: For each product.
   7. Health Product Declaration: For each product.
   8. Sourcing of Raw Materials: Corporate sustainability report for each manufacturer.
   9. Third-Party Certifications: For each product.
   10. Third-Party Certified Life-Cycle Assessment: For each product.

C. Shop Drawings: For all-glass entrances and storefronts.
   1. Include plans, elevations, and sections.
   2. Include details of fittings and glazing, including isometric drawings of patch fittings and rail fittings .
   3. Door hardware locations, mounting heights, and installation requirements.

D. Samples for Initial Selection: For each type of exposed finish indicated.

E. Samples for Verification: For each type of exposed finish indicated, prepared on Samples of size indicated below.
   1. Metal Finishes: 6-inch- (150-mm-) long sections of patch fittings and rail fittings, accessory fittings, and other items.
   2. Glass: 6 inches (150 mm) square, showing exposed-edge finish.
   3. Door Hardware: For exposed door hardware of each type, in specified finish, full size.

F. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors sidelights, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.05 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For warranty.

1.06 CLOSEOUT SUBMITTALS

A. Maintenance Data: For all-glass systems to include in maintenance manuals.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer/Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
   1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.08 WARRANTY

A. Warranty: [Manufacturer] [Installer] agrees to repair or replace components of all-glass systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
   1. Warranty Period: Two years from date of Substantial Completion.
      a. Concealed Floor Closers: Two years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design all-glass entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of all-glass entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

C. Deflection Limits: Deflection normal to glazing plane is limited to [1 inch (25 mm)] [1/175 of clear span or 3/4 inch (19 mm), whichever is smaller] .

D. Deflection Limits: Deflection normal to glazing plane is limited to 1 inch (25 mm) 1/175 of clear span or 3/4 inch (19 mm), whichever is smaller] .

E. Seismic Performance: All-glass entrances and storefronts shall withstand the effects of earthquake motions determined according to [ASCE/SEI 7] .

2.02 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.; Solare™ acoustic, single-glazed partition system or comparable product by one of the following:
   1. DORMA USA, Inc.
   2. Nana Wall Systems, Inc.

2.03 METAL COMPONENTS

A. Fitting Configuration:
   1. Manual-Sliding, All-Glass Entrance Doors Sidelights: Continuous rail fitting at top and bottom .
   2. All-Glass Storefronts: [Recessed glazing channel at top and continuous rail fitting at bottom] [Recessed glazing channel at top and bottom] [Continuous rail fitting at top and bottom] .
   3. All-Glass Storefronts: Continuous rail fitting at top and bottom].

B. Patch Fittings:Stainless-steel-clad aluminum.

C. Rail Fittings:
   1. Material:Match patch-fitting metal and finish Stainless-steel-clad aluminum.
   2. Height:
      a. Top Rail: 3-1/2 inches (89 mm).
      b. Bottom Rail: 3-1/2 inches (89 mm).
   3. Profile: Square .
   4. End Caps: Manufacturer's standard precision-fit end caps for rail fittings.

D. Accessory Fittings: Match [patch-fitting] [rail-fitting] [patch- and rail-fitting] metal and finish for the following:

E. Accessory Fittings: Match patch- and rail-fitting metal and finish for the following:
   1. Overhead doorstop.
   2. Glass-support-fin brackets.

F. Anchors and Fastenings: Surface mounted.

G. Materials:
   1. Aluminum: ASTM B 221 (ASTM B 221M), with strength and durability characteristics of not less than Alloy 6063-T5.
      a. Color and Finish: Clear anodized
   2. Stainless-Steel Cladding: ASTM A 666, Type 304.
      a. Finish: No. 4 directional satin finish

2.04 GLASS

A. Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.
   1. Class 1: Clear monolithic.
      a. Thickness:1/2 inch (13 mm).
      b. Locations: As indicated .
   2. Exposed Edges: Machine ground and flat polished.
   3. Butt Edges: Flat ground.
   4. Corner Edges: Lap-joint corners with exposed edges polished.

2.05 ENTRANCE DOOR HARDWARE

A. General: Entrance door hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrance systems indicated. For exposed parts, match metal and finish of patch fittings and rail fittings.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.; [Pivot] [Hinged] [Sliding].
   2. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.;Sliding.

B. Manual-Sliding Entrance Door Hardware: Manufacturer's standard for sliding action indicated and with twin rollers.

1. Type: Top-hung, stacking partition.

2.06 BUTT-GLAZING SEALANTS

A. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses NT, G, and A.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Bostik, Inc.
      b. Dow Corning Corporation.
      c. GE Construction Sealants; Momentive Performance Materials Inc.
      d. May National Associates, Inc.; a subsidiary of Sika Corporation.
      e. Pecora Corporation.
      f. Polymeric Systems, Inc.
      g. Schnee-Morehead, Inc., an ITW company.
      h. Tremco Incorporated.
   2. Sealant shall have a VOC content of 250 g/L or less.
   3. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
   4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
   5. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Formaldehyde emissions shall not exceed 9 mcg/cu. m or 7 ppb, whichever is less.
   6. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
   7. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." The building concentration of formaldehyde shall not exceed half of the indoor recommended exposure limit, or 33 mcg/cu. m, and that of acetaldehyde shall not exceed 9 mcg/cu. m.

2.07 FABRICATION

A. Provide holes and cutouts in glass to receive hardware, fittings, and accessory fittings before tempering glass. Do not cut, drill, or make other alterations to glass after tempering.
   1. Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

B. Factory assemble components and factory install hardware and fittings to greatest extent possible.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.02 INSTALLATION

A. Install all-glass systems and associated components according to manufacturer's written instructions.

B. Set units level, plumb, and true to line, with uniform joints.

C. Maintain uniform clearances between adjacent components.

D. Lubricate hardware and other moving parts according to manufacturer's written instructions.

E. Set, seal, and grout floor closer cases as required to suit hardware and substrate indicated.

F. Install butt-joint sealants according to manufacturer's written instructions.

3.03 ADJUSTING AND CLEANING

A. Adjust all-glass entrance doors and hardware to produce smooth operation and tight fit at contact points.

B. Remove excess sealant and glazing compounds and dirt from surfaces.

END OF SECTION

SECTION 08 4126
ALL GLASS ENTRANCE AND STOREFRONT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Interior sliding all-glass entrance doors.
   2. All-glass [sidelights] [and] [transoms].
   3. All-glass sidelights
   4. Interior all-glass storefronts.

1.03 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.04 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.

B. Sustainable Design Submittals:
   1. Product Data: For sealants, indicating VOC content.
   2. Laboratory Test Reports: For sealants, indicating compliance with requirements for low-emitting materials.
   3. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
   4. Product Certificates: For materials manufactured within 100 miles (160 km) of Project, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each raw material.
   5. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each regional material.
   6. Environmental Product Declaration: For each product.
   7. Health Product Declaration: For each product.
   8. Sourcing of Raw Materials: Corporate sustainability report for each manufacturer.
   9. Third-Party Certifications: For each product.
   10. Third-Party Certified Life-Cycle Assessment: For each product.

C. Shop Drawings: For all-glass entrances and storefronts.
   1. Include plans, elevations, and sections.
   2. Include details of fittings and glazing, including isometric drawings of patch fittings and rail fittings .
   3. Door hardware locations, mounting heights, and installation requirements.

D. Samples for Initial Selection: For each type of exposed finish indicated.

E. Samples for Verification: For each type of exposed finish indicated, prepared on Samples of size indicated below.
   1. Metal Finishes: 6-inch- (150-mm-) long sections of patch fittings and rail fittings, accessory fittings, and other items.
   2. Glass: 6 inches (150 mm) square, showing exposed-edge finish.
   3. Door Hardware: For exposed door hardware of each type, in specified finish, full size.

F. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams.

Coordinate final entrance door hardware schedule with doors sidelights, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.05 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For warranty.

1.06 CLOSEOUT SUBMITTALS

A. Maintenance Data: For all-glass systems to include in maintenance manuals.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer/Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.08 WARRANTY

A. Warranty: [Manufacturer] [Installer] agrees to repair or replace components of all-glass systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.
    a. Concealed Floor Closers: Two years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design all-glass entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of all-glass entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

C. Deflection Limits: Deflection normal to glazing plane is limited to [1 inch (25 mm)] [1/175 of clear span or 3/4 inch (19 mm), whichever is smaller] .

D. Deflection Limits: Deflection normal to glazing plane is limited to 1 inch (25 mm) 1/175 of clear span or 3/4 inch (19 mm), whichever is smaller] .

E. Seismic Performance: All-glass entrances and storefronts shall withstand the effects of earthquake motions determined according to [ASCE/SEI 7] .

2.02 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.; Solare™ acoustic, single-glazed partition system or comparable product by one of the following:

1. DORMA USA, Inc.
2. Nana Wall Systems, Inc.

2.03 METAL COMPONENTS

A. Fitting Configuration:

1. Manual-Sliding, All-Glass Entrance Doors Sidelights: Continuous rail fitting at top and bottom .
2. All-Glass Storefronts: [Recessed glazing channel at top and continuous rail fitting at bottom] [Recessed glazing channel at top and bottom] [Continuous rail fitting at top and

bottom] .
3. All-Glass Storefronts: Continuous rail fitting at top and bottom].

B. Patch Fittings:Stainless-steel-clad aluminum.

C. Rail Fittings:
1. Material:Match patch-fitting metal and finish Stainless-steel-clad aluminum.
2. Height:
a. Top Rail: 3-1/2 inches (89 mm).
b. Bottom Rail: 3-1/2 inches (89 mm).
3. Profile: Square .
4. End Caps: Manufacturer's standard precision-fit end caps for rail fittings.

D. Accessory Fittings: Match [patch-fitting] [rail-fitting] [patch- and rail-fitting] metal and finish for the following:

E. Accessory Fittings: Match patch- and rail-fitting metal and finish for the following:
1. Overhead doorstop.
2. Glass-support-fin brackets.

F. Anchors and Fastenings: Surface mounted.

G. Materials:
1. Aluminum: ASTM B 221 (ASTM B 221M), with strength and durability characteristics of not less than Alloy 6063-T5.
a. Color and Finish: Clear anodized
2. Stainless-Steel Cladding: ASTM A 666, Type 304.
a. Finish: No. 4 directional satin finish

2.04 GLASS

A. Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.
1. Class 1: Clear monolithic.
a. Thickness:1/2 inch (13 mm).
b. Locations: As indicated .
2. Exposed Edges: Machine ground and flat polished.
3. Butt Edges: Flat ground.
4. Corner Edges: Lap-joint corners with exposed edges polished.

2.05 ENTRANCE DOOR HARDWARE

A. General: Entrance door hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrance systems indicated. For exposed parts, match metal and finish of patch fittings and rail fittings.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.; [Pivot] [Hinged] [Sliding].
2. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.;Sliding.

B. Manual-Sliding Entrance Door Hardware: Manufacturer's standard for sliding action indicated and with twin rollers.
1. Type: Top-hung, stacking partition.

2.06 BUTT-GLAZING SEALANTS

A. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses NT, G, and A.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Bostik, Inc.
b. Dow Corning Corporation.
c. GE Construction Sealants; Momentive Performance Materials Inc.

d. May National Associates, Inc.; a subsidiary of Sika Corporation.
e. Pecora Corporation.
f. Polymeric Systems, Inc.
g. Schnee-Morehead, Inc., an ITW company.
h. Tremco Incorporated.

2. Sealant shall have a VOC content of 250 g/L or less.
3. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
5. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Formaldehyde emissions shall not exceed 9 mcg/cu. m or 7 ppb, whichever is less.
6. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
7. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." The building concentration of formaldehyde shall not exceed half of the indoor recommended exposure limit, or 33 mcg/cu. m, and that of acetaldehyde shall not exceed 9 mcg/cu. m.

2.07 FABRICATION

A. Provide holes and cutouts in glass to receive hardware, fittings, and accessory fittings before tempering glass. Do not cut, drill, or make other alterations to glass after tempering.
   1. Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

B. Factory assemble components and factory install hardware and fittings to greatest extent possible.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.02 INSTALLATION

A. Install all-glass systems and associated components according to manufacturer's written instructions.

B. Set units level, plumb, and true to line, with uniform joints.

C. Maintain uniform clearances between adjacent components.

D. Lubricate hardware and other moving parts according to manufacturer's written instructions.

E. Set, seal, and grout floor closer cases as required to suit hardware and substrate indicated.

F. Install butt-joint sealants according to manufacturer's written instructions.

3.03 ADJUSTING AND CLEANING

A. Adjust all-glass entrance doors and hardware to produce smooth operation and tight fit at contact points.

B. Remove excess sealant and glazing compounds and dirt from surfaces.

END OF SECTION

SECTION 08 4227
FRAMELESS SLIDING GLASS DOORS - AVANTI

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Frameless sliding glass doors.

B. Fittings, hardware, and accessories.

1.02 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2024.

C. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 2023b.

D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.

E. ASTM C1036 - Standard Specification for Flat Glass; 2021.

F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

G. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

H. GANA (GM) - GANA Glazing Manual; 2022.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene at project site seven (7) calendar days prior to scheduled start of construction activities of this section and review section requirements.
   1. Attendance: Architect, Contractor, partition system installer, and related trades.
   2. Review and discuss:
      a. Critical dimensions.
      b. Product delivery and storage.
      c. Staging and sequencing.
      d. Protection of completed work.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site and store in manufacturer's protective cartons until openings are ready for door installation.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F (4.4 degrees C).

B. Maintain this minimum temperature during and 24 hours after installation of sealants.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a one-year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufacturer; Avanti Systems USA: www.avantisystemsusa.com/#sle.
   1. Phone: Toll Free (877) AVANTI-3; (877) 282-6843.

B. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FRAMELESS SLIDING GLASS DOOR ASSEMBLIES

A. Frameless Sliding Glass Doors; Avanti Systems USA; Eclipse Sliding Glass Barn Doors, frameless style, clear glass with suspension system, stainless steel hardware, and accessories: www.avantisystemsusa.com/#sle.

2.03 MATERIALS

A. Glass:
   1. Tempered Glass: Annealed flat glass meeting requirements of ASTM C1036, Type 1-Transparent Flat, Class 1-Clear, Quality Q3, and fully tempered in accordance with ASTM C1048, Kind FT, 1/2 inch (12.7 mm) thick, with eased and polished edges.
   2. Laminated Glass: Fully tempered float glass laminated in accordance with ASTM C1172, with eased and polished edges.
      a. Plastic Interlayer: 0.060 inch (1.52 mm) thick, minimum.
      b. Thickness: 9/16 inch (14.3 mm).

B. Hardware and Fittings: Stainless steel, complying with ASTM A480/A480M, ASTM A276/A276M or ASTM A666, manufacturer's standard satin finish (unless noted otherwise).
   1. Framing Components: Fabricated from 3/4 inch (19 mm) to 1 inch (25 mm) diameter stock.
   2. Suspension System: Manufacturer's standard glass-hung supports that impose no loads on adjacent partitions.
   3. Magnetic Drive Door Operator: Located in header with door mounting components; Operator accessories and functions include automatic lock.
   4. Door Hangers: Exposed wheel type with ball bearing axles, Two door hangers per leaf.
   5. Stops: Rubber cushioned.
   6. Guides: Floor mounted.
   7. Pulls: Manufacturer's standard, U-shaped, 47-1/4 inch (1200 mm) by 1-1/4 inch (31mm), brushed-stainless steel stock handle.

C. Regulatory Requirements:
   1. Provide tempered or laminated safety glass for locations subject to human impact as required by applicable codes.
   2. Accessibility: Comply with ADA Standards applicable to doors and hardware.

D. Fasteners: Comply with manufacturer's written recommendations.

E. Provide 3/4 inch (19 mm) anti-finger-trap space between doors and adjacent panels.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings are acceptable.

B. If substrate preparation is the responsibility of another installer or trade, notify Architect of unsatisfactory or detrimental conditions before proceeding.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved shop drawings.

B. Install components plumb and level, in proper plane, free from warp and twist.

C. Tolerances:

1. Maximum Variation from Plumb or Level: 1/8 inch (3 mm) in 3 feet (0.9 m) or 1/4 inch (6 mm) in 10 feet (3.05 m)
2. Maximum misalignment of members abutting end-to-end: 1/16 (1.5 mm).

D. Install glass and accessories in accordance with GANA (GM) Glazing Manual.

3.03 ADJUSTING

A. Adjust doors to operate correctly, without binding to frame, sill or adjacent doors.

B. Adjust door hardware for smooth operation.

3.04 CLEANING

A. Clean materials installed as part of this work thoroughly prior to Date of Substantial Completion.

B. Touch up minor scratches and abrasions to match original finish.

3.05 PROTECTION

A. Protect installed products on project until Date of Substantial Completion.

END OF SECTION

SECTION 08 4227
FRAMELESS SLIDING GLASS DOORS - AVANTI

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Frameless sliding glass doors.

B. Fittings, hardware, and accessories.

1.02 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2024.

C. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 2023b.

D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.

E. ASTM C1036 - Standard Specification for Flat Glass; 2021.

F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

G. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

H. GANA (GM) - GANA Glazing Manual; 2022.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene at project site seven (7) calendar days prior to scheduled start of construction activities of this section and review section requirements.
   1. Attendance: Architect, Contractor, partition system installer, and related trades.
   2. Review and discuss:
      a. Critical dimensions.
      b. Product delivery and storage.
      c. Staging and sequencing.
      d. Protection of completed work.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site and store in manufacturer's protective cartons until openings are ready for door installation.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F (4.4 degrees C).

B. Maintain this minimum temperature during and 24 hours after installation of sealants.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a one-year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufacturer; Avanti Systems USA: www.avantisystemsusa.com/#sle.
   1. Phone: Toll Free (877) AVANTI-3; (877) 282-6843.

B. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FRAMELESS SLIDING GLASS DOOR ASSEMBLIES

A. Frameless Sliding Glass Doors; Avanti Systems USA; Eclipse Sliding Glass Barn Doors, frameless style, clear glass with suspension system, stainless steel hardware, and accessories: www.avantisystemsusa.com/#sle.

2.03 MATERIALS

A. Glass:
   1. Tempered Glass: Annealed flat glass meeting requirements of ASTM C1036, Type 1-Transparent Flat, Class 1-Clear, Quality Q3, and fully tempered in accordance with ASTM C1048, Kind FT, 1/2 inch (12.7 mm) thick, with eased and polished edges.
   2. Laminated Glass: Fully tempered float glass laminated in accordance with ASTM C1172, with eased and polished edges.
      a. Plastic Interlayer: 0.060 inch (1.52 mm) thick, minimum.
      b. Thickness: 9/16 inch (14.3 mm).

B. Hardware and Fittings: Stainless steel, complying with ASTM A480/A480M, ASTM A276/A276M or ASTM A666, manufacturer's standard satin finish (unless noted otherwise).
   1. Framing Components: Fabricated from 3/4 inch (19 mm) to 1 inch (25 mm) diameter stock.
   2. Suspension System: Manufacturer's standard glass-hung supports that impose no loads on adjacent partitions.
   3. Magnetic Drive Door Operator: Located in header with door mounting components; Operator accessories and functions include automatic lock.
   4. Door Hangers: Exposed wheel type with ball bearing axles, Two door hangers per leaf.
   5. Stops: Rubber cushioned.
   6. Guides: Floor mounted.
   7. Pulls: Manufacturer's standard, U-shaped, 47-1/4 inch (1200 mm) by 1-1/4 inch (31mm), brushed-stainless steel stock handle.

C. Regulatory Requirements:
   1. Provide tempered or laminated safety glass for locations subject to human impact as required by applicable codes.
   2. Accessibility: Comply with ADA Standards applicable to doors and hardware.

D. Fasteners: Comply with manufacturer's written recommendations.

E. Provide 3/4 inch (19 mm) anti-finger-trap space between doors and adjacent panels.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings are acceptable.

B. If substrate preparation is the responsibility of another installer or trade, notify Architect of unsatisfactory or detrimental conditions before proceeding.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved shop drawings.

B. Install components plumb and level, in proper plane, free from warp and twist.

C. Tolerances:

1. Maximum Variation from Plumb or Level: 1/8 inch (3 mm) in 3 feet (0.9 m) or 1/4 inch (6 mm) in 10 feet (3.05 m)
2. Maximum misalignment of members abutting end-to-end: 1/16 (1.5 mm).

D. Install glass and accessories in accordance with GANA (GM) Glazing Manual.

3.03 ADJUSTING

A. Adjust doors to operate correctly, without binding to frame, sill or adjacent doors.

B. Adjust door hardware for smooth operation.

3.04 CLEANING

A. Clean materials installed as part of this work thoroughly prior to Date of Substantial Completion.

B. Touch up minor scratches and abrasions to match original finish.

3.05 PROTECTION

A. Protect installed products on project until Date of Substantial Completion.

END OF SECTION

SECTION 08 5619
PASS-THRU WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush mount pass-thru windows.

1.02 REFERENCES

A. ASTM A 240 - Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels.

B. ASTM A 653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

C. ASTM B 209 - Aluminum and Aluminum-Alloy Sheet and Plate.

D. ASTM B 221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

E. ASTM B 580 - Standard Specification for Anodic Oxide Coatings on Aluminum.

F. ASTM B 680 - Standard Test Method for Seal Quality of Anodic Coatings on Aluminum by Acid Dissolution.

G. ASTM C 1048 - Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.

H. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass.

I. ASTM E 774 - Standard Specification for Sealed Insulating Glass Units.

J. Aluminum Association AA DAF-45 - Designation System for Aluminum Finishes.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Include plans, elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, glazing, fasteners, hardware, finish, electrical wiring diagrams, options, and accessories.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

G. Operation and Maintenance Manual: Submit manufacturer's operation and maintenance manual, including operation, maintenance, adjustment, and cleaning instructions, trouble shooting guide, parts list, and electrical wiring diagrams.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum of 25 years successful experience continuously manufacturing pass-thru windows.

B. Installer Qualifications: Installer shall have five years experience manufacturing and fabricating windows of similar type and scope as those specified in this section.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.

2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging with labels clearly identifying product name and manufacturer until ready for installation.

B. Storage: Store materials in clean, dry area indoors until ready for installation.

C. Handling: Protect materials and finish from damage during handling and installation.

1.06 SEQUENCING

A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.

B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.07 REFERENCE STANDARDS

A. AA DAF-45 - Designation System for Aluminum Finishes; 2003 (Reaffirmed 2009).

B. UL 752 - Standard for Bullet-Resisting Equipment; Current Edition, Including All Revisions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Ready Access Drive-Thru Windows, which is located at: 1815 Arthur Dr.; West Chicago, IL 60185; Toll Free Tel: 800-621-5045; Tel: 630-876-7766; Fax: 630-876-7767; Email: request info (ready@ready-access.com); Web: http://www.ready-access.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01 6000 - Product Requirements. Refer to Section 01 2500 Substitution Proceedure

2.02 FLUSH MOUNTED PASS-THRU WINDOWS

A. Single Panel Pass-Thru Windows: Ready Access 275 Series Single Panel Pass-Thru Window.
   1. Opening:
      a. Overall Opening 47-1/2 inches wide by 43-1/2 inches high and a Service Opening 19 inches wide by 36 inches high.
      b. Verify rough opening size before ordering Pass Thru Window.
   2. Door Operation:
      a. Manual Open/Manual Close.
   3. Door Type: Sliding, 1 door panel.
   4. Opening Direction:
      a. Refer to Drawings
   5. Frame: Extruded aluminum, ASTM B 221, Alloy 6063-T6 and 6063-T52.
   6. Aluminum Sheet: ASTM B 209, Alloy 5005-AQ-H34.
   7. Galvanized Steel Sheet: ASTM A 653, G90.
   8. Bottom Sill: Horizontal, track-free.
   9. Manual Security Lock: Thumb turn hook lock.
   10. Security Bar Set: Additional security bar for additional after hours security.
   11. Fasteners: Stainless steel rivets and hex-head zinc-plated self-threading machine screws.
   12. Handle: Black Delrin handle with pressed-in stainless steel spring pins. Stainless steel handle mounting bracket. Stainless steel spring-loaded mounting base.
   13. Glazing:
      a. 1/4-inch (6 mm) clear tempered glass, ASTM C 1048.
   14. Silicone Glazing Sealant: Dow Corning 999A:
   15. Finish:

a. Anodized Aluminum Color clear aluminum.

2.03 ALUMINUM FINISH

A. Anodized:
   1. Clear, AA-M10-C12-C22-A31, ASTM B 680.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine openings and areas to receive pass-thru windows for substrate conditions that would adversely affect installation or subsequent use.

B. If openings or substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

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

C. Ensure openings to receive pass-thru windows are plumb, level, square, accurately aligned, correctly located, and in tolerance.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install pass-thru windows plumb, level, square, true to line, and without warp or rack. Maintain dimensional tolerances and alignment with adjacent Work.

C. Install thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

D. Anchor pass-thru windows securely in place to supports. Use attachment methods permitting adjustment for construction tolerances, irregularities, alignment, and expansion and contraction.

E. H.Electrical: Install electrical power as specified in Section 26 05 00 - Common Work Results for Electrical.

F. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.

G. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.04 ADJUSTING

A. Adjust doors to be weathertight in closed position.

B. Adjust doors and operating hardware to function properly and for smooth operation without binding.

3.05 CLEANING

A. Remove protective material from factory finished aluminum surfaces.

B. Clean pass-thru windows promptly after installation in accordance with manufacturer's instructions.

C. Remove excess joint sealant in accordance with sealant manufacturer's instructions.

D. Do not use harsh cleaning materials or methods that would damage glazing or finish.

3.06 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 08 5619
PASS-THRU WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush mount pass-thru windows.

1.02 REFERENCES

A. ASTM A 240 - Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels.

B. ASTM A 653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

C. ASTM B 209 - Aluminum and Aluminum-Alloy Sheet and Plate.

D. ASTM B 221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

E. ASTM B 580 - Standard Specification for Anodic Oxide Coatings on Aluminum.

F. ASTM B 680 - Standard Test Method for Seal Quality of Anodic Coatings on Aluminum by Acid Dissolution.

G. ASTM C 1048 - Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.

H. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass.

I. ASTM E 774 - Standard Specification for Sealed Insulating Glass Units.

J. Aluminum Association AA DAF-45 - Designation System for Aluminum Finishes.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Include plans, elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, glazing, fasteners, hardware, finish, electrical wiring diagrams, options, and accessories.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

G. Operation and Maintenance Manual: Submit manufacturer's operation and maintenance manual, including operation, maintenance, adjustment, and cleaning instructions, trouble shooting guide, parts list, and electrical wiring diagrams.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum of 25 years successful experience continuously manufacturing pass-thru windows.

B. Installer Qualifications: Installer shall have five years experience manufacturing and fabricating windows of similar type and scope as those specified in this section.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.

3. Refinish mock-up area as required to produce acceptable work.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging with labels clearly identifying product name and manufacturer until ready for installation.

B. Storage: Store materials in clean, dry area indoors until ready for installation.

C. Handling: Protect materials and finish from damage during handling and installation.

1.06 SEQUENCING

A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.

B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.07 REFERENCE STANDARDS

A. AA DAF-45 - Designation System for Aluminum Finishes; 2003 (Reaffirmed 2009).

B. UL 752 - Standard for Bullet-Resisting Equipment; Current Edition, Including All Revisions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Ready Access Drive-Thru Windows, which is located at: 1815 Arthur Dr.; West Chicago, IL 60185; Toll Free Tel: 800-621-5045; Tel: 630-876-7766; Fax: 630-876-7767; Email: request info (ready@ready-access.com); Web: http://www.ready-access.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01 6000 - Product Requirements. Refer to Section 01 2500 Substitution Proceedure

2.02 FLUSH MOUNTED PASS-THRU WINDOWS

A. Single Panel Pass-Thru Windows: Ready Access 275 Series Single Panel Pass-Thru Window.
   1. Opening:
      a. Overall Opening 47-1/2 inches wide by 43-1/2 inches high and a Service Opening 19 inches wide by 36 inches high.
      b. Verify rough opening size before ordering Pass Thru Window.
   2. Door Operation:
      a. Manual Open/Manual Close.
   3. Door Type: Sliding, 1 door panel.
   4. Opening Direction:
      a. Refer to Drawings
   5. Frame: Extruded aluminum, ASTM B 221, Alloy 6063-T6 and 6063-T52.
   6. Aluminum Sheet: ASTM B 209, Alloy 5005-AQ-H34.
   7. Galvanized Steel Sheet: ASTM A 653, G90.
   8. Bottom Sill: Horizontal, track-free.
   9. Manual Security Lock: Thumb turn hook lock.
   10. Security Bar Set: Additional security bar for additional after hours security.
   11. Fasteners: Stainless steel rivets and hex-head zinc-plated self-threading machine screws.
   12. Handle: Black Delrin handle with pressed-in stainless steel spring pins. Stainless steel handle mounting bracket. Stainless steel spring-loaded mounting base.
   13. Glazing:
      a. 1/4-inch (6 mm) clear tempered glass, ASTM C 1048.
   14. Silicone Glazing Sealant: Dow Corning 999A:
   15. Finish:
      a. Anodized Aluminum Color clear aluminum.

2.03 ALUMINUM FINISH

A. Anodized:

1. Clear, AA-M10-C12-C22-A31, ASTM B 680.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine openings and areas to receive pass-thru windows for substrate conditions that would adversely affect installation or subsequent use.

B. If openings or substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

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

C. Ensure openings to receive pass-thru windows are plumb, level, square, accurately aligned, correctly located, and in tolerance.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install pass-thru windows plumb, level, square, true to line, and without warp or rack. Maintain dimensional tolerances and alignment with adjacent Work.

C. Install thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

D. Anchor pass-thru windows securely in place to supports. Use attachment methods permitting adjustment for construction tolerances, irregularities, alignment, and expansion and contraction.

E. H.Electrical: Install electrical power as specified in Section 26 05 00 - Common Work Results for Electrical.

F. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.

G. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.04 ADJUSTING

A. Adjust doors to be weathertight in closed position.

B. Adjust doors and operating hardware to function properly and for smooth operation without binding.

3.05 CLEANING

A. Remove protective material from factory finished aluminum surfaces.

B. Clean pass-thru windows promptly after installation in accordance with manufacturer's instructions.

C. Remove excess joint sealant in accordance with sealant manufacturer's instructions.

D. Do not use harsh cleaning materials or methods that would damage glazing or finish.

3.06 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 08 7100
DOOR HARDWARE

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

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

1.02 SUMMARY

A. This Section includes commercial door hardware for the following:
   1. Swinging doors.
   2. Other doors to the extent indicated

B. Door hardware includes, but is not necessarily limited to, the following:
   1. Mechanical door hardware.
   2. Electromechanical door hardware.
   3. Cylinders specified for doors in other sections.

C. Related Sections:
   1. Division 08 Section “Hollow Metal Doors and Frames”.
   2. Division 08 Section “Flush Wood Doors”.
   3. Division 08 Section “Aluminum-Framed Entrances and Storefronts”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
   1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
   2. ICC/IBC - International Building Code.
   3. NFPA 70 - National Electrical Code.
   4. NFPA 80 - Fire Doors and Windows.
   5. NFPA 101 - Life Safety Code.
   6. NFPA 105 - Installation of Smoke Door Assemblies.
   7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
   1. ANSI/BHMA Certified Product Standards - A156 Series.
   2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
   3. ANSI/UL 294 - Access Control System Units.
   4. UL 305 - Panic Hardware.
   5. ANSI/UL 437- Key Locks.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

C. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
   2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door

hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:
   a. Type, style, function, size, label, hand, and finish of each door hardware item.
   b. Manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
   e. Explanation of abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for door hardware.
   g. Door and frame sizes and materials.
   h. Warranty information for each product.
4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

D. Shop Drawings: Details of electrified access control hardware indicating the following:
   1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.Complete (risers, point-to-point) access control system block wiring diagrams.
   2. Wiring instructions for each electronic component scheduled herein.
   3. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

E. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

F. Informational Submittals:
   1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

G. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures

1.04 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
   1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
   2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
   1. Function of building, purpose of each area and degree of security required.
   2. Plans for existing and future key system expansion.
   3. Requirements for key control storage and software.
   4. Installation of permanent keys, cylinder cores and software.
   5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
   1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
   2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
   3. Review sequence of operation narratives for each unique access controlled opening.
   4. Review and finalize construction schedule and verify availability of materials.
   5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.05 DELIVERY, STORAGE AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.06 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.07 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
   1. Structural failures including excessive deflection, cracking, or breakage.
   2. Faulty operation of the hardware.
   3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 PRODUCTS

2.01 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
   1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Please note that ASSA ABLOY is transitioning the Yale Commercial brand to ASSA ABLOY ACCENTRA. This affects only the brand name; the products and product numbers will remain unchanged. The brand transition is expected to be complete in or about May of 2024, and products shipping after that time will be branded ASSA ABLOY ACCENTRA.

D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.02 BUTT HINGES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
   1. Quantity: Provide the following hinge quantity:
   2. Two Hinges: For doors with heights up to 60 inches.
   3. Three Hinges: For doors with heights 61 to 90 inches.
   4. Four Hinges: For doors with heights 91 to 120 inches.
   5. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
   6. One additional hinge on doors 3’8” wide to 4’0” wide up to 90-inches high when the door is using a door closer.
   7. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
   8. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
   9. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.
   10. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
   11. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
   12. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
   13. Interior door that is 3'8" to 4'0" wide, require heavy weight hinges.
   14. Hinge Options: Comply with the following:
   15. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

B. Manufacturers:
   1. McKinney (MK) - TA/T4A Series, 5-knuckle.

C. Hinges at Storm Shelter Assemblies: At a minimum, provide heavy weight hinges with stainless steel screws.
   1. Quantity: Provide the following hinge quantity:
      a. Three Hinges: For shutters with heights 36 to 60 inches, and doors at height of 80 inches.
      b. Four Hinges: For shutters with heights > 60 inches to 80 inches, and doors with heights greater than 84 inches.
   2. Quantity: Provide the following hinge quantity:
      a. Three Hinges: For shutters with heights 36 to 60 inches, and doors at height of 80 inches.
      b. Four Hinges: For shutters with heights > 60 inches to 80 inches, and doors with heights greater than 84 inches.
      c. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
      d. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
      e. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.
   3. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
      a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
      b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.
   4. Hinge Weight and Base Material: At a minimum, provide heavy weight hinges with stainless steel screws used in accordance with and specified as part of a certified Storm Shelter Opening.
   5. Manufacturers:

a. McKinney (MK) - SP3386/SP3786.
b. No Substitution.

2.03 CONTINUOUS HINGES

A. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

B. Where specified, provide modular continuous geared hinges that ship in two or three pieces and form a single continuous hinge upon installation.

C. Manufacturers:.
1. Pemko (PE).

2.04 DOOR OPERATING TRIM

A. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls, where applicable, shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When the pull’s through-bolt fastener is in the same location as push plate; the pull’s fastener type is to be countersunk flush with door face so push plate can be mounted flat against door face.
6. Manufacturers:
a. Rockwood (RO).

2.05 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Manufacturers:
1. BEST.
2. No Substitution.

C. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Match Facility Standard.

D. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

E. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Field verify and key cylinders to match Owner's existing system.

F. Key Quantity: Provide the following minimum number of keys:
1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).
4. Construction Control Keys (where required): Two (2).
5. Permanent Control Keys (where required): Two (2).

G. Construction Keying: Provide temporary keyed construction cores.

H. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.06 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

B. Manufacturers:
1. Lund Equipment (LU).
2. MMF Industries (MM).
3. Telkee (TK).

2.07 MORTISE LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.

B. Manufacturers:
1. Corbin Russwin Hardware (RU) - ML2000 Series.
2. No Substitution.

2.08 MULTI-POINT LOCKS AND LATCHING DEVICES

A. Multi-Point Locksets, Storm Shelter: Provide ANSI/BHMA A156.37, Series 1000, Operational Grade 1 and Security Grade 1 Certified Products Directory (CPD) listed multi-point locksets. Listed manufacturers shall meet all functions and features as specified herein.

B. Manufacturer
1. Corbin Russwin Hardware (RU) - FE6600 Series

2.09 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.

4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:
   1. Strikes for Mortise Locks and Latches: BHMA A156.13.
   2. Strikes for Bored Locks and Latches: BHMA A156.2.
   3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
   4. Dustproof Strikes: BHMA A156.16.

2.10 CONVENTION EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
   1. Exit devices shall have a five-year warranty.
   2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
   3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.
   4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
   5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
   6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
      a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
      b. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
      c. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.
      d. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
      e. Rail Sizing: Provide exit device rails factory sized for proper door width application.
      f. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.
   1. Electromechanical exit devices shall have the following functions and features:
      a. Universal Molex plug-in connectors that have standardized color-coded wiring and are field configurable in fail safe or fail secure and operate from 12vdc to 24vdc regulated.
      b. EcoFlex or equivalent technology that reduces energy consumption up to 92% as certified by GreenCircle.
      c. Options to be available for request-to-exit or enter signaling, latchbolt and touchbar monitoring.

d. Field configurable electrified trim to fail-safe or fail-secure that operates from 12-24VDC.
e. Five-year limited warranty for electromechanical features.

2. Manufacturers:
a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
b. Von Duprin (VD) - 35A/98 XP Series.

2.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.

C. Large body cast iron surface mounted door closers shall have a 30-year warranty.

D. Manufacturers
1. Corbin Russwin Hardware (RU) - DC8000 Series.
2. LCN Closers (LC) - 4040XP Series.
3. Norton Rixson (NO) - 9500 Series.

E. Door Closers, Surface Mounted (Unitrol): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted closers with door stop mechanism to absorb dead stop shock on arm and top hinge. Hold-open arms to have a spring loaded mechanism in addition to shock absorber assembly. Arms to be provided with rigid steel main arm and secondary arm lengths proportional to the door width.

F. Manufacturers:
1. Corbin Russwin Hardware (RU) - Unitrol Series.
2. Norton Rixson (NO) - Unitrol Series

G. Door Closers, Surface Mounted (Cam Action): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, high efficiency door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be of the cam and roller design, one piece cast aluminum silicon alloy body with adjustable backcheck and independently controlled valves for closing sweep and latch speed.

H. Manufacturer:

1. Corbin Russwin (RU) - DC5000 Series.
2. Norton Rixson (NO) - 2800ST Series.

2.12 ARCHITECURAL TRIM

A. Door Protective Trim
   1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and
   2. not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
   3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.
   4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
      a. Stainless Steel: 300 grade, 050-inch thick
   5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
   6. Manufacturers:
      a. Rockwood (RO).

2.13 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

C. Manufacturers:
   1. Rockwood (RO).

D. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

E. Manufacturers:
   1. Norton Rixson (RF).
   2. Rockwood (RO).
   3. Sargent Manufacturing (SA).

2.14 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and

B. provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

C. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

D. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

E. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.

F. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

G. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

H. Manufacturers:
1. Pemko (PE).

2.15 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.16 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.03 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
   1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
   2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
   3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
   4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

E. Door Closers:
   1. Install closers on room side of corridor doors, and stair side of stairways.
   2. Lobby doors: Mount on vestibule side.
   3. Exterior doors: Parallel rigid arm installation.
   4. Where through-bolts are required, install closers using only manufacturer-furnished through-bolts.
   5. Install closers using only manufacturer-furnished template machine screws for metal doors and manufacturer -furnished wood screws for wood doors.
   6. Coordinate with door supplier to provide proper blocking for surface mounting.
   7. Use of self-drilling or self-tapping fasteners is not allowed.
   8. Where full glazed door units are specified, use closer arm and mounting configuration as required to avoid use of drop brackets whenever possible.

F. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

G. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
   1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.05 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to

operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.06 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.07 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.08 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
   1. Quantities listed are for each pair of doors, or for each single door.
   2. The supplier is responsible for handing and sizing all products.
   3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
   4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer’s Abbreviations:
   1. MK - McKinney
   2. PE - Pemko
   3. SU - Securitron
   4. SA - SARGENT
   5. RU - Corbin Russwin
   6. RO - Rockwood
   7. RF - Rixson
   8. NO - Norton
   9. OT - Other
   10. CR - Curries (Hardware Only)

3.09 HARDWARE SETS

3.10 SET: 1.0

A. **Doors: 101**

B. **(ALD/ALF) Exterior - Card Reader (DPS) - Pair: EL Rim Exit Device (nightlatch, RTE) x Pulls x Mullion x Overhead Stop x Door Closer**

2	Continuous Hinge	_FM SLF-HD1-M x PT x Door Height		PE
2	Electric Power Transfer	EL-CEPT	630	SU

1	Mullion	L980A	US28	SA
1	Mounting Kit	98-2578		SA
1	Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M51	630	RU
1	Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51 CT_SB	630	RU
1	Cylinder	Type as Req'd x Temp Core	626	
2	Permanent Core	As Specified	626	
2	Pull	RM201 Mtg-Type 12XHD	US32D	RO
2	Conc Overhead Stop	1-X36	630	RF
2	Surface Closer	9500 (top jamb mount)	689	NO
1	Rain Guard	346_		PE
2	Sweep	345_PK		PE
1	Threshold	252x FG		PE
1	Astragal	(door manufacturer's heavy duty standard)		00

1 Set Weatherstrip	(door manufacturer's heavy duty standard)	00	
2 ElectroLynx Harness	QC-C00_	MK	+
2 ElectroLynx Harness	QC-C3000_	MK	+
2 Position Switch	DPS	SU	+
1 Power Supply	AQL_ x Amp x Relay (consolidate as applicable)	SU	+
1 Access Control Reader1 Set Wiring Diagrams	By Division 28By Security Contractor	OT00	

C. SECURED TIME PERIOD:

D. Door normally closed and locked. Entrance by valid card to card-reader. Free egress at all times.

E. Loss of power maintains security from locked side of opening - Entrance by mechanical key only. Door monitored for door ajar or forced open.

F. UNSECURED TIME PERIOD:

G. Unsecured period of time setup in access control system allows entrance. Free egress at all times.

H. Loss of power maintains security from locked side of opening - Entrance by mechanical key only.

3.11 SET: 2.0

A. Doors: 100B

B. (ALD/ALF) Card Reader (DPS): EL Rim Exit Device (nightlatch, RTE) x Pull x Overhead Stop x Door Closer

1	Continuous Hinge	_FM SLF-HD1-M x PT x Door Height		PE	
1	Electric Power Transfer	EL-CEPT	630	SU	+
1	Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51 CT_SB	630	RU	+
1	Permanent Core	As Specified	626		
1	Pull	RM201 Mtg-Type 12XHD	US32D	RO	
1	Conc Overhead Stop	1-X36	630	RF	
1	Surface Closer	9500 (top jamb mount)	689	NO	
1	Door Silencer/Seal	by Door & Frame Manufacturer		OT	
1	ElectroLynx Harness	QC-C00_		MK	+
1	ElectroLynx Harness	QC-C3000_		MK	+
1	Position Switch	DPS		SU	+
1	Power Supply	AQL_ x Amp x Relay (consolidate as applicable)		SU	+
1	Access Control Reader	By Division 28		OT	
1	Set Wiring Diagrams	By Security Contractor		00	

C. Door normally closed and locked.

D. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

E. Loss of power maintains security from lock side, entrance by mechanical key only. Door monitored for door ajar and forced open.

3.12 SET: 3.0

A. Doors: 130B

B. Exterior - Card Reader: EL Lock (NAC, RTE, DPS) x Door Closer w/ Spring Stop

	Hinge (qty per	T4A3386 (size	US32D	MK	

	spec)	per spec, NRP as applicable)			
1	Electric Power Transfer	EL-CEPT	630	SU	+
1	Fail Secure Lock	ML20606 x NAC-SEC NSN CT_SB	626	RU	+
1	Permanent Core	As Specified	626		
1	Surface Closer	UNI9500	689	NO	
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	
1	Rain Guard	346_		PE	
1	Sweep	345_PK		PE	
1	Threshold	252 / 253 x FG		PE	
1	Kerf Weather Seal	by frame manufacturer		CR	
1	ElectroLynx Harness	QC-C00_		MK	+
1	ElectroLynx Harness	QC-C3000_		MK	+
1	Power Supply	AQL_ x Amp x Relay (consolidate as applicable)		SU	+
1	Access Control Reader	By Division 28		OT	
1	Set Wiring Diagrams	By Security Contractor		00	

C. Door normally closed and locked.

D. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

E. Loss of power maintains door security from locked side, entrance by mechanical key only. Door monitored for door ajar or forced open.

F. EL NOTE: internal door position monitoring, standard feature, is built into latching hardware through the use of latch bolt and deadlatch monitoring.

3.13 SET 4.0

1 Continuous Hinge	_FM_SLF-HD1-M x PT x Door Height			PE	
1 Electric Power Transfer	EL-CEPT		630	SU	+
1 Fail Secure Lock	ML20606 x NAC-SEC NSN CT_SB		626	RU	+
1 Permanent Core	As Specified		626		
1 Conc Overhead Stop	1-X36	630	RF		
1 Surface Closer	9500 (top jamb mount)	689	NO		
1 Door Silencer/Seal	by Door & Frame Manufacturer		OT		

1 ElectroLynx Harness	QC-C00_		MK +
1 ElectroLynx Harness	QC-C3000_		MK +
1 Position Switch	DPS		SU +
1 Power Supply	AQL_ x Amp x Relay (consolidate as applicable)		SU +
1 Access Control Reader1 Set Wiring Diagrams	By Division 28By Security Contractor		OT00

A. Door normally closed and locked.

B. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

C. Loss of power maintains security from lock side, entrance by mechanical key only. Door monitored for door ajar and forced open.

3.14 SET: 5.0

A. Doors: 117

B. Rim Exit Device (storeroom) x Door Closer w/ Spring Stop

Hinge (qty per spec)	T4A3786 (size per spec, NRP as applicable)	US26D	MK
1 Rim Exit, Storeroom	ED5200(A) N959ET M110 CT_SB	630	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	UNI9500	689	NO
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Gasketing	S88		PE

3.15 SET 6.0

A. Doors: 121, 132, 147

B. Card Reader: EL Lock (NAC, RTE, DPS) x Door Closer

Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK	
1 Electric Hinge	TA2714-QC (size per spec)	US26D	MK	+
1 Fail Secure Lock	ML20606 x NAC-SEC NSN CT_SB	626	RU	+
1 Permanent Core	As Specified	626		
1 Surface Closer	R9500 / PR9500	689	NO	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	
1 Wall Stop	RM860 / RM861	US26D	RO	
1 Gasketing	S88		PE	
1 ElectroLynx Harness	QC-C00_		MK	+
1 ElectroLynx Harness	QC-C3000_	MK	+	
1 Power Supply	AQL_ x Amp x Relay (consolidate as	SU	+	

	applicable)			
1 Access Control Reader1 Set Wiring Diagrams	By Division 28By Security Contractor	OT00		

C. Door normally closed and locked.

D. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

E. Loss of power maintains door security from locked side, entrance by mechanical key only. Door monitored for door ajar or forced open.

F. EL NOTE: internal door position monitoring, standard feature, is built into latching hardware through the use of latch bolt and deadlatch monitoring.

3.16 SET: 7.0

A. Doors: 148

B. Card Reader: EL Lock (NAC, RTE, DPS) x Door Closer w/ Spring Stop

	Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK	
1	Electric Hinge	TA2714-QC (size per spec)	US26D	MK	+
1	Fail Secure Lock	ML20606 x NAC-SEC NSN CT_SB	626	RU	+
1	Permanent Core	As Specified	626		
1	Surface Closer	UNI9500	689	NO	
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	
1	Gasketing	S88		PE	
1	ElectroLynx Harness	QC-C00_		MK	+
1	ElectroLynx Harness	QC-C3000_		MK	+
1	Power Supply	AQL_ x Amp x Relay (consolidate as applicable)		SU	+
1	Access Control Reader	By Division 28		OT	
1	Set Wiring Diagrams	By Security Contractor		00	

C. REFERENCE ALTERNATE HARDWARE SET - 7.1

D. Door normally closed and locked.

E. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

F. Loss of power maintains door security from locked side, entrance by mechanical key only. Door monitored for door ajar or forced open.

G. EL NOTE: internal door position monitoring, standard feature, is built into latching hardware through the use of latch bolt and deadlatch monitoring.

3.17 SET: 7.1 ALTERNATE

A. Doors: 148 - Alternate

B. Storm Rated Hardware - Card Reader: EL Multi-Point Lock (NAC, DPS, RTE) x Door Closer w/ Spring Stop

	Hinge, Hvy Wt	SP3786	US26D	MK
1	Electric Power Transfer	EL-CEPT	630	SU
1	Multi-Point Lock	FE6665 NSN AUX188 CT_SB	626	RU
1	Permanent Core	As Specified	626	
1	Surface Closer	UNI9500 SN-134	689	NO
1	Gasketing	S773		PE
1	Sweep	345 (as required)		PE
1	ElectroLynx Harness	QC-C00_		MK
1	ElectroLynx Harness	QC-C3000_		MK
1	Power Supply	AQL_ x Amp x Relay (consolidate as applicable)		SU
1	Access Control Reader	By Division 28		OT
1	Set Wiring Diagrams	By Security Contractor		00

C. ALTERNATE:

D. -Alternate hardware set used to price in lieu of set 7.0

E. Application:
1. -Harden Shell Area; however, does NOT need to meet ICC/FEMA requirements.
2. -Curries 747 Door Type

F. Door normally closed and locked.

G. Entrance by presenting a valid card to card-reader. Egress allowed at all times.

H. Loss of power maintains door security from locked side, entrance by mechanical key only. Door monitored for door ajar or forced open.

I. EL NOTE: internal door position monitoring, standard feature, is built into latching hardware through the use of latch bolt and deadlatch monitoring.

3.18 SET: 8.0

A. Doors: 114, 122 Storeroom Lock

Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Storeroom Lock	ML2057 NSN CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Wall Stop	RM860 / RM861	US26D	RO

3 Silencer	608		RO

3.19 SET: 9.0

A. Doors: 116

Storeroom Lock x Closer			
Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Storeroom Lock	ML2057 NSN CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	R9500 / PR9500	689	NO
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Gasketing	S88		PE

3.20 SET: 10.0

A. Doors: 103, 104, 105, 106, 107, 108, 109, 110, 111, 123, 124, 125, 126, 127, 128, 133, 134, 135, 136,

B. 137, 138, 139, 140, 141, 142

C. Entrance Lock

Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Entrance Lock	ML2054 NSN CT_SB	626	RU
1 Permanent Core1 Wall Stop	As Specified RM860 / RM861	626US26D	RO
1 Gasketing	S88		PE
1 Coat Hook	RM840	US32D	RO

3.21 SET: 11.0

Doors: 113			
Classroom Lock			
Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Classroom Lock	ML2055 NSN CT_SB	626	RU
1 Permanent Core1 Wall Stop	As Specified RM860 / RM861	626US26D	RO
3 Silencer	608		RO

3.22 SET: 12.0

Doors: 100D, 130A			
Classroom Lock x Closer			
Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Classroom Lock	ML2055 NSN CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	R9500 / PR9500	689	NO

1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Gasketing	S88		PE

3.23 SET: 13.0

A. Doors: 129, (ALD/ALF) Classroom Lock x Closer

Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Classroom Lock	ML2055 NSN CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	R9500 / PR9500	689	NO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Door Silencer/Seal	by Door & Frame Manufacturer		OT

3.24 SET: 14.0

A. Doors: 149, Classroom Lock x Closer w/Spring Stop

Hinge (qty per spec)	TA2714 (size per spec, NRP as applicable)	US26D	MK
1 Classroom Lock	ML2055 NSN CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	UNI9500	689	NO
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Gasketing	S88		PE

B. REFERENCE ALTERNATE HARDWARE SET - 14.1

C. Doors: 149 - Alternate, Storm Rated Hardware: Multi-Point Lock x Door Closer w/ Spring Stop

Hinge, Hvy Wt	SP3786	US26D	MK
1 Multi-Point Lock	FE6665 NSN AUX188 CT_SB	626	RU
1 Permanent Core	As Specified	626	
1 Surface Closer	UNI9500 SN-134	689	NO
1 Gasketing	S773		PE
1 Sweep	345 (as required)		PE

D. ALTERNATE:
   1. -Alternate hardware set used to price in lieu of set 14.0

E. Application:
   1. -Harden Shell Area; however, does NOT need to meet ICC/FEMA requirements.
   2. -Curries 747 Door Type

F. Door normally closed, unlocked, deadbolt retracted - free egress and ingress. Outside trim locked when deadbolt is projected or by outside mechanical key. Inside lever-turn or outside mechanical key will project or retract deadbolt.

G. Inside lever will retract both deadbolt and latch simultaneously allowing free egress at all times.

3.25 SET: 15.0

A. Doors 119, Privacy Lock w/ Indicator x Door Closer

Hinge (qty per spec)	TA2714 (size per spec)	US26D	MK
1 Privacy Lock	ML2030 NSN V21 EMB	626	RU
1 Surface Closer	PS2800ST / 2800ST	689	NO
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Gasketing	S88		PE
1 Coat Hook	RM840	US32D	RO

3.26 SET: 16.0

A. Doors: 118, 120 - Push/Pull x Door Closer

Hinge (qty per spec)	TA2714 (size per spec)	US26D	MK
1 Push Plate	73E	US26D	RO
1 Pull	RM5275	US32D	RO
1 Surface Closer	PS2800ST / 2800ST	689	NO
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	RM860 / RM861	US26D	RO
1 Gasketing	S88		PE

3.27 SET: 17.0

A. Doors: 110A, 130C - Overhead or Sliding Door System / Cylinder

1 Cylinder	Type as Req'd x Temp Core	626
1 Permanent Core	As Specified	626

END OF SECTION

SECTION 08 8000
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glazing units.

B. Laminated glass interlayers.

C. Glazing compounds.

1.02 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

D. ASTM C1036 - Standard Specification for Flat Glass; 2021.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

F. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

G. GANA (GM) - GANA Glazing Manual; 2022.

H. GANA (SM) - GANA Sealant Manual; 2008.

I. GANA (LGRM) - Laminated Glazing Reference Manual; 2019.

J. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (Reaffirmed 2016).

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by each of the affected installers.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data on Insulating Glass Unit, Glazing Unit, and Plastic Film Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

D. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM), GANA (SM), GANA (LGRM), and IGMA TM-3000 for glazing installation methods. Maintain one copy on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.

1. Provide certified glass products through ANSI accredited certifications that include plant audits and independent laboratory performance testing.
    a. Insulating Glass Certification Council (IGCC).
    b. Safety Glazing Certification Council (SGCC).

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.
   1. Provide company, field supervisors, and installers that hold active ANSI accredited certifications in appropriate categories for work specified.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.06 MOCK-UPS

A. See Section 01 4000 - Quality Requirements for additional requirements.

B. Provide on-site glazing mock-up with the specified glazing components.

C. Locate where directed.

1.07 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F (4 degrees C).

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Insulating Glass Units: Provide a ten (10) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

C. Mirrors: Ten (10) years against spoilage of backing material.

D. Exterior glazing (vertical): Two (2) years against leakage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Glass Fabricators:
   1. Guardian Glass North America
   2. Tecnoglass; Insulating Glass: www.tecnoglass.com/#sle.
   3. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com/#sle.
   4. Viracon, Inc: www.viracon.com/#sle.
   5. Tor-Gard 301G Tornado Protective Glazing System
   6. Substitutions: See Section 01 6000 - Product Requirements.

B. Float Glass Manufacturers:
   1. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

C. Laminated Glass Manufacturers:
   1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
   2. Viracon, Architectural Glass segment of Apogee Enterprises, Inc: www.viracon.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
   2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
   3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
   4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
   5. Wired Glass Type: ASTM C1036, Type II - Wired Flat Glass, Quality - Q6, with color and performance characteristics as indicated.

B. Laminated Glass: Float glass laminated in accordance with ASTM C1172.

1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.
2. Ionoplast Interlayer: 0.035 inch (0.889 mm) thick, minimum.

2.03 GLAZING UNITS

A. Monolithic Interior Vision Glazing:
1. Applications: Interior glazing unless otherwise indicated.
2. Glass Type: Fully tempered float glass.
3. Tint: Clear.
4. Thickness: 1/4 inch (6.4 mm), nominal.
5. Glazing Method: Dry glazing method, gasket glazing.

B. Monolithic Safety Glazing: Non-fire-rated.
1. Applications:
a. Glazed lites in doors, except fire doors.
b. Glazed sidelights to doors, except in fire-rated walls and partitions.
c. Other locations required by applicable federal, state, and local codes and regulations.
d. Other locations indicated on drawings.
2. Glass Type: Laminated safety safety glass as specified.
3. Tint: Clear.
4. Thickness: 1/2" inch (12.7 mm), nominal.

2.04 GLAZING COMPOUNDS

2.05 ACCESSORIES

A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) by width of glazing rabbet space minus 1/16 inch (1.5 mm) by height to suit glazing method and pane weight and area.

B. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.

C. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

3.04 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 INSTALLATION - DRY GLAZING METHOD (TAPE AND TAPE)

A. Application - Interior Glazed: Set glazing infills from the interior of the building.

B. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

D. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

E. Place glazing tape on free perimeter of glazing in same manner described above.

F. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

G. Carefully trim protruding tape with knife.

3.06 FIELD QUALITY CONTROL

A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

B. Monitor and report installation procedures and unacceptable conditions.

3.07 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.08 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES - USG

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.
B. Metal stud wall framing.
C. Metal grid or channel ceiling framing.
D. Resilient sound isolation clips.
E. Gypsum wallboard.
F. Cementitious backing board.
G. Joint treatment and accessories.
H. Textured finish system.
I. Insulation.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood blocking product and execution requirements.
B. Section 09 3000 - Tiling: Tile backing board.

1.03 REFERENCE STANDARDS

A. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.
B. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2019.
C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
E. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.
F. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).
G. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2018.
H. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2023.
I. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
J. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.
K. 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.
L. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.
M. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2017.
N. ASTM C1325 - Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units; 2022, with Editorial Revision (2023).
O. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

P. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2023.

Q. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2019, with Editorial Revision (2020).

R. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

S. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

T. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

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

V. ASTM E413 - Classification for Rating Sound Insulation; 2022.

W. GA-216 - Application and Finishing of Gypsum Panel Products; 2021.

X. GA-600 - Fire Resistance and Sound Control Design Manual; 2021.

Y. 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 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Include data on metal framing, gypsum board, glass mat faced gypsum board, sheathing, accessories, and joint finishing system.

C. Installer's qualification statement.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum five years of experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Sound-Rated: Provide completed assemblies with the following characteristics:
   1. Sound Transmission Loss Values: STC as indicated, calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
   2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.

2.02 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:
   1. ClarkDietrich: www.clarkdietrich.com/#sle.
   2. Marino: www.marinoware.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

B. Non-structural Framing System Components: ASTM C645; 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/240 at 10 psf (L/240 at 480 Pa).

1. Studs: "C" shaped with knurled or embossed faces.
    a. Products:
        1) ClarkDietrich: www.clarkdietrich.com/#sle.
        2) Substitutions: See Section 01 6000 - Product Requirements.
2. Runners: U shaped, sized to match studs.
3. Ceiling Channels: C-shaped.
4. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
5. Resilient Furring Channels: Single leg configuration; 1/2 inch (12 mm) channel depth.
6. Resilient Sound Isolation Clips: Steel resilient clips with molded rubber isolators, attaches to framing; improves noise isolation performance of wall and floor-ceiling assemblies.

C. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and screwed to secondary deflection channel set inside but unattached to top track.

D. Non-structural Framing Accessories:
1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
2. Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
    a. Materials: ASTM A36/A36M formed sheet steel support member with factory-welded ASTM A1003/A1003M steel plate base.
3. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.

E. Direct Suspension Systems: G40 galvanized steel grid system of main and cross tees, suspended from structure above.
1. Products:
    a. USG Corporation; DGLW Drywall Suspension System - Flat Ceilings: www.usg.com/#sle.
    b. Substitutions: See Section 01 6000 - Product Requirements.

F. Grid Suspension Systems: G40 galvanized steel grid system of main and cross tees, suspended from structure above.
1. Indexed Support Bars: Designed for wall-to-wall system only.
2. Products:
    a. USG Corporation; DWSS Drywall Suspension System - Flat Ceilings: www.usg.com/#sle.
    b. Substitutions: See Section 01 6000 - Product Requirements.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
1. USG Corporation: www.usg.com/#sle.

B. Gypsum Board: 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: As indicated on drawings.
    b. Ceilings: 5/8 inch (16 mm).
3. Paper-Faced Regular Board Products:
4. Paper-Faced Fire-Resistant Board Products:
    a. USG Corporation; USG Sheetrock Brand Firecode SCX Panels 5/8 in: www.usg.com/#sle.

C. Abuse Resistant Panels:
1. Application: High-traffic areas indicated.

2. Surface Abrasion: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
6. Edges: Tapered.

D. Impact-Resistant Wallboard:
1. Application: High-traffic areas indicated.
2. Surface Abrasion: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Hard Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
6. Glass Mat-Faced Type: Gypsum wallboard, as defined in ASTM C1658/C1658M.
7. Edges: Tapered.
8. Glass Mat Faced Products:
   a. USG Corporation; USG Sheetrock Brand Glass-Mat Panels Mold Tough VHI Firecode X 5/8 in: www.usg.com/#sle.

E. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including wet walls at restrooms and walls to receive tile..
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with or , suitable for decoration using natural stone or tile on walls, floors, or decks in wet and dry areas.
   a. Unfaced Products:
      1) USG Corporation; USG Durock Brand Cement Board with EdgeGuard 1/2 in: www.usg.com/#sle.
4. Fiber-Reinforced Gypsum Panel: Backerboard and underlayment panel as defined in ASTM C1278/C1278M.
   a. Wall Tile-Backer Board Products
      1) USG Corporation; USG Fiberock Brand Tile Backerboard 5/8 in: www.usg.com/#sle.

F. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings, unless otherwise indicated.
2. Thickness: 1/2 inch (13 mm).
3. Edges: Tapered.

2.04 GYPSUM WALLBOARD ACCESSORIES

A. Glass Fiber Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
1. Type 1, Class A, unfaced.
2. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
3. Smoke Developed Index: 50 or less, when tested in accordance with ASTM E84.
4. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
5. Sustainability Certifications: Greenguard Gold Certified; Declare Red List Free.
6. Products:

B. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
   1. Types: As detailed or required for finished appearance.

C. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless otherwise indicated.
   1. Corner Beads: Low profile, for 90 degree outside corners.
   2. Architectural Reveal Beads:
      a. Reveal Depth: 1/2 inch (12 mm).
      b. Reveal Width: 1/2 inch (12 mm).
      c.
   3. Architectural Specialty Reveal:
      a. Manufacturer: Fry Reglet
      b. Use: Flush Reveal Base at bottom of wall. Refer to Plans for location
      c. Application: 5/8" gypsum board
      d. Size: 1/2" x 1/2" DRMBFLR5050400
   4. Expansion Joints:
      a. Type: V-shaped metal with factory-installed protective tape.
      b. Provide at door, window and wall openings at edge of opening to ceiling.
      c. Provided at 20'-0" o.c. minimum. Provide no run of gypsum board longer than 20'-0" without an expansion joint

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. Glass-Fiber-Reinforced Gypsum Access Panels: Wall- and ceiling-mounted; natural white color, smooth finish, square corners.
   1. Material: Glass-fiber-reinforced gypsum cement.
   2. Exposed fasteners: Stainless steel.
   3. Class A flame spread rating in accordance with ASTM E84.

F. Drywall Ceiling Installation Accessories: Products recommended by gypsum board manufacturer.
   1. Drywall Grid Locking Channels: Manufacturer's standard channels with an engineered locking pocket for connecting tees to the perimeter of ceiling, without using fasteners.

G. Fasteners and Adhesives: Products recommended by gypsum board manufacturer.
   1. 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 C754 and manufacturer's instructions.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
   1. Level ceiling system to a tolerance of 1/1200.

C. 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.
3. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches (100 mm) from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.
1. Orientation: Horizontal.

F. 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.

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. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

C. Cementitious Backing Board: Install over steel framing members and reinforced gypsum wall board where indicated, in accordance with and manufacturer's instructions.

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 20 feet apart on walls and ceilings.
2. at each side of windows and door openings

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. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
2. Level 3: Walls to receive textured wall finish.
3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. 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).

C. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.07 TEXTURE FINISH

A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

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.

END OF SECTION

SECTION 09 3000
TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Cementitious backer board as tile substrate.

D. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2017 (Reaffirmed 2022).

B. ANSI A108.1b - Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.

C. ANSI A108.1c - Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.

D. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.

E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive; 2023.

F. ANSI A108.5 - Setting of Ceramic Tile with Dry-Set Cement Mortar, Modified Dry-Set Cement Mortar, EGP (Exterior Glue Plywood) Modified Dry-Set Cement Mortar, or Improved Modified Dry-Set Cement Mortar; 2023.

G. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy; 2023.

H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2019).

I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 2023.

J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2017 (Reaffirmed 2022).

K. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.

L. ANSI A108.12 - Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Modified Dry-Set Mortar; 2023.

M. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2021).

N. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2020.

O. ANSI A108.20 - American National Standard Specifications for Exterior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs; 2020.

P. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2019.

Q. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014 (Reaffirmed 2019).

R. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2024.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

D. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches (457 by 457 mm) in size illustrating pattern, color variations, and grout joint size variations.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Installer's Qualification Statement:

G. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Tile: 10 square feet (1 square meters) of each size, color, and surface finish combination.

1.06 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.07 MOCK-UPS

A. See Section 01 4000 - Quality Requirements for general requirements for mock-up.

B. Construct tile mock-up where indicated on drawings, incorporating all components specified for the location.
   1. Minimum size of mock-up is indicated on drawings.
   2. Approved mock-up may remain as part of work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.09 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F (10 degrees C) and below 100 degrees F (38 degrees C) during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 TILE

A. Manufacturers: All products by the same manufacturer.

1. Crossville, Inc.
2. Design basis, tile type, and color pallet products and manufacturers are indicated on finish schedule on the drawings..
3. Substitutions: See Section 01 6000 - Product Requirements. All substitutions approved prior to bid for check of compatibility to pre-approved color pallet.

B. Porcelain Floor and Wall Tile : ANSI A137.1, standard grade.
1. Polished Porcelain Stone
   a. Crossville; Moonstruck, refer to Finish Schedule for size and location
2. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
3. Trim: bull nose
4. Thickness: 10.5 mm.
5. Grout Joint: 3mm
6. Breaking Strength: >500 lbf
7. Bond Strength: >200 psi
8. Chemical Resistance: Unaffected
9. Frost Resistance: Resistant
10. Water Absorption: <0.20%
11. Scratch Hardness: 7 Mohs Scale
12. Color(s): As scheduled.
13. Pattern: As scheduled.

2.02 TRIM AND ACCESSORIES

A. Tile Material Trims: Matching bullnose, double bullnose, cove base, and cove shapes in sizes coordinated with field tile and profiles indicated.
1. Applications:
   a. Open Edges: Bullnose unless non-ceramic termination is detailed.
   b. Inside Corners: Jointed.
   c. Floor to Wall Joints: Cove base unless non-ceramic termination is detailed.
2. Manufacturers: Same as for tile.

B. Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
1. Applications:
   a. Refer details on drawings for condition and product standard.
2. Manufacturers:
   a. Schluter-Systems: www.schluter.com. (Product Standard).
   b. Substitutions: See Section 01 6000 - Product Requirements.
3. Products:
   a. Schluter Rondec - Finishing and edge protection profile
      1) Satin Aluminum Finish
   b. Schluter - Dilex-ahk/-phk - used at inside and outside corners
      1) Provide miscelaneous connectors and end caps as required.
      2) Satin Aluminum Finish
   c. Schluter - Reno-U - used at floor transistions.
      1) Ramp size as required for transition of floor materials. However, not to exceed 1/2" and must meet ADA requirements. NOTE: Reno-Ramp Sizes 3/4" and 9/16 are not ADA compliant and shall not be used.
      2) Satin Aluminum Finish

2.03 SETTING MATERIALS

A. Provide setting and grout materials from same manufacturer.

B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.

1. Applications: Use this type of bond coat where indicated and where no other type of bond coat is indicated.
2. Products:
    a. LATICRETE International, Inc ; LATICRETE 254 Platinum: www.laticrete.com or other equivalent by approved substitute grout manufacturer.

C. Dry-Set Portland Cement Mortar Bond Coat: ANSI A118.1.

2.04 ADHESIVE MATERIALS

A. Manufacturers:
1. Bonsal American, Inc : www.sakrete.com
2. Bostik Inc : www.bostik-us.com.
3. Mapei Corporation : www.mapei.com.
4. Substitutions: See Section 01 6000 - Product Requirements.

2.05 MORTAR MATERIALS

A. Manufacturers:
1. Bonsal American, Inc : www.sakrete.com
2. Bostik, Inc : www.bostik-us.com.
3. C-Cure: www.c-cure.com
4. Custom Building Products : www.custombuildingproducts.com.
5. Laticrete: www.laticrete.com. (Design standard basis, grout manufacturer basis.
6. Mapei Corporation: www.mapei.com
7. Substitutions: See Section 01 6000 - Product Requirements.

2.06 GROUTS

A. Manufacturers:
1. LATICRETE International, Inc : www.laticrete.com. (Product standard and design basis).
2. Substitutions: See Section 01 6000 - Product Requirements.

B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
1. Color(s): As scheduled.
2. Products:
    a. LATICRETE International, Inc ; LATICRETE SPECTRALOCK PRO Premium Grout: www.laticrete.com. Design basis or equivalent by other approved manufacturer.
        1) Grout and setting products shall be from the same manufacturer.
    b. Substitutions: See Section 01 6000 - Product Requirements.

2.07 MAINTENANCE MATERIALS

A. Grout Release: Temporary, water-soluble pre-grout coating.

2.08 ACCESSORY MATERIALS

A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
1. Crack Resistance: No failure at 1/8 inch (3.2 mm) gap, minimum.

B. Membrane at wet walls: 4 mil (0.1 mm) thick polyethylene film installed behind backer board.

C. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 5/8" inch (15.9 mm) thick; 2 inch (51 mm) wide coated glass fiber tape for joints and corners.
1. National Gypsum Permabase or approved equivalent.

D. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 7/16 inch (11 mm) thick; 2 inch (51 mm) wide coated glass fiber tape for joints and corners.

PART 3 EXECUTION

3.01 EXAMINATION

A. 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 tile.

B. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.

D. Verify that surfaces are smooth and flat with maximum variation of 3/16 inch in 10 feet, and are ready to receive Work.

E. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
   1. Apply, trowel, and float filler to leave a smooth, flat, hard surface. Repair all floor irregularities.
   2. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.

F. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

D. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.

E. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.03 INSTALLATION - GENERAL

A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.20, manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install non-ceramic trim in accordance with manufacturer's instructions.

G. Install thresholds where indicated.

H. Sound tile after setting. Replace hollow sounding units.

I. Keep control and expansion joints free of mortar, grout, and adhesive.

J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

K. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

L. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - WALL TILE

A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.

3.05 CLEANING

A. Clean tile and grout surfaces.

3.06 PROTECTION

A. Do not permit traffic over finished floor surface for 4 days after installation.

3.07 SCHEDULE

A. Refer to drawings Room Finish Schedule.

END OF SECTION

SECTION 09 5100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 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. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.

C. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.

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; 2022.

E. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning.

C. Samples: Submit two samples for verification 12 by 12 inch (300 by 300 mm) in size illustrating material and finish of acoustical units.

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

E. Manufacturer's qualification statement.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.

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.armstrongceilings.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Suspension Systems:
   1. Same as for acoustical units.

2.02 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Rating: Determined in accordance with test procedures in ASTM E119 and complying with the following:

B. Seismic Performance: Ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:
   1. Local authorities having jurisdiction.

2.03 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.
   1. VOC Content: As specified in Section 01 6116.

B. Acoustical Panel Ceilings
   1. Surface Texture: Fine Texture
   2. Composition: Mineral Fiber
   3. Color: White
   4. Size: 24 in x 24 in
   5. Edge Profile:Beveled Tegular, Square Lay-in
   6. Noise Reduction Coefficient (NRC) ASTM C 423 Classified w/ UL label on product carton: 0.80
   7. Ceiling Attenuation Class (CAC): ASTM E1414/E1414M; Classified with UL label on product carton: 40
   8. Articulation Class (AC): ASTM E 1111; Classified with UL label on product carton: 170
   9. Flame Spread: ASTM E 1264; Class A
   10. Light Reflectance (LR) White Panel: ASTM E 1477; 0.85
   11. Dimensional Stability: Standard, HumiGuard Plus
   12. Recycle Content: Up to 87% total recycled content. (Total recycled content: pre-consumer, post-consumer and post-industrial)
   13. Material Ingredient Transparency: Health Product Declaration (HPD); Declare Label
   14. Life Cycle Assessment: Third Party Certified Environmental Product Declaration (EPD)
   15. Indoor Air Quality Certified to SCS-105 v4.2-2023
   16. USDA Certified Biobased Product
   17. Basis of Design: Ultima Lay Tegular Tile as manufacturered by Armstrong World Industries, Inc.

C. Suspension System: Prelude XL 15/16

2.04 SUSPENSION SYSTEM(S)

A. Manufacturers:
   1. Armstrong World Industries, Inc : www.armstrong.com.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, perimeter moldings, and hold down clips as required. Manufacturer to be the same as the selected ceiling tile.

C. Exposed Steel Suspension System : Formed steel, commercial quality cold rolled ; heavy-duty.
   1. Profile: Tee; 15/16 inch (24 mm) wide face. Prelude XL
   2. Construction: Double web.
   3. Finish: White painted.
   4. Product: Prelude by Armstrong or equivalent by other listed manufacturer.

D. Concealed Suspension System : Formed steel, commercial quality cold rolled ; heavy-duty.
   1. Products:
      a. Armstrong Drywall Grid system or equivalent.

2.05 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application 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.

D. Perimeter Moldings: Same metal and finish as grid.
   1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
   2. At Concealed Grid: Provide exposed L-shaped molding.

E. Touch-up Paint: Type and color to match acoustical and grid units.

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 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

3.03 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

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. Seismic Suspension System, Seismic Design Categories D, E, F: Hang suspension system with grid ends attached to the perimeter molding on two adjacent walls; on opposite walls, maintain a 3/4 inch (19 mm) clearance between grid ends and wall.

G. 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.

H. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

I. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.

J. Do not eccentrically load system or induce rotation of runners.

K. Install light fixture boxes constructed of acoustical panel above light fixtures in accordance with fire rated assembly requirements and light fixture ventilation requirements.

3.04 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 each panel to retain panels tight to grid system; comply with fire rating requirements.
   1. Use within twelve (12) feet of exterior doors.

3.05 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.

3.06 CLEANING

A. See Section 01 7000 - Execution and Closeout Requirements for additional requirements.

B. Clean surfaces.

C. Replace damaged or abraded components.

3.07 SCHEDULE

A. Refer to ceiling plans and room finish schedules and notes.

END OF SECTION

SECTION 09 6500
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

1.03 REFERENCE STANDARDS

A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

B. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile; 2020.

C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

D. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

1.04 SUBMITTALS

A. See Section 01 3000 - 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. Shop Drawings: Indicate seaming plans and floor patterns.

D. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

E. Verification Samples: Submit two samples, 6 by 6 inch (50 by 50 mm) in size illustrating color and pattern for each resilient flooring product specified.

F. Sustainable Design Submittal: Submit VOC content documentation for flooring and adhesives.

G. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

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

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Stair Materials: Quantity equivalent to 5 percent of each type and color.

1.05 WARRANTY

A. 15 year Standard LVT Warranty

1.06 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.

C. Testing Agency Qualifications: Independent firm specializing in performing concrete slab moisture testing and inspections of the type specified in this section.

1.07 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.

1.08 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. Vinyl Tile - Type LVT - 01: Printed film type, with transparent or translucent wear layer; acoustic interlayer or backing.
   1. Manufacturers:
      a. Milliken; Laterals, Sandline
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F1700, Class III.
   3. Construction: High Performance Luxury Vinyl Tile
   4. Finish: ProGuard MAX Coating
   5. Wear Layer Thickness: 22 mil (.055 mm)
   6. Overall Thickness: 5.0 mm
   7. Edge Profile: Micro Bevel
   8. Critical Radiant Flux: Pass ->0.45 watts/cm2, Class I
   9. Smoke Density: Pass -<= 450
   10. Resistance to Chemicals: Pass - No Change
   11. Static Load Limit: Pass - NO Change
   12. Plank Size 25 cm x 150 cm
   13. Installation Method: Ashlar unless shown to the contrary on Interior drawings and schedules
   14. Warranty: 20 Year Limited Commercial Wear Warranty
   15. Adhesive: per Manufacturers written recommendations

2.02 STAIR COVERING

A. Stair Stringers: Full height in one piece and in maximum available lengths, matching treads in material and color.
   1. Manufacturers:
      a. Johnsonite, a Tarkett Company: www.johnsonite.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Nominal Thickness: 0.080 inch (2.0 mm).

B. Stair Nosings: 1-1/2 inch (38 mm) horizontal return, 1-1/8 inch (28.5 mm) vertical return, full width of stair tread in one piece.
   1. Material: Rubber.

2.03 RESILIENT BASE

A. Resilient Base - Type RB-01: ASTM F1861, Type TS rubber, vulcanized thermoset; style as scheduled.

1. Manufacturers:
    a. Johnsonite, a Tarkett Company: www.johnsonite.com/#sle.
    b. Substitutions: Not permitted. Facility standard
2. Height: As indicated .
3. Thickness: 0.125 inch (3.2 mm).
4. Length: Roll.
5. 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.

C. Moldings, Transition and Edge Strips: Metal.
1. Manufacturers:
    a. Schluter System, unless otherwise indicated on Architectural..

D. Filler for Coved Base at drywall applications: Non-shrink plastic putty type designed to fill gaps up to 5/8" deep and 1" tall.

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. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
1. Test as Follows:
    a. Alkalinity (pH): ASTM F710.
    b. Internal Relative Humidity: ASTM F2170.
    c. Moisture Vapor Emission: ASTM F1869.
2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

C. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

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

B. Prohibit traffic until filler is fully cured.

C. Clean substrate.

3.03 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Adhesive-Applied Installation:
1. Spread only enough adhesive to permit installation of materials before initial set.
2. Fit joints and butt seams tightly.
3. Set flooring in place, press with heavy roller to attain full adhesion.

D. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

E. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

1. Metal Strips: Attach to substrate before installation of flooring using stainless steel screws.

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

G. Install feature strips where indicated.

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 square tile to ashlar pattern. Allow minimum 1/2 full size tile width at room or area perimeter.

D. Install loose-laid tile, fit interlocking edges tightly.

E. 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. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.06 INSTALLATION - STAIR COVERINGS

A. Install stringers configured tightly to stair profile.

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.

3.09 SCHEDULE

A. Refer to the Room Finish Plan, Room Finish Schedule and Room Finish Notes on the drawing Sheet A710.

END OF SECTION

SECTION 09 6813
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

B. Removal of existing carpet tile.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

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

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Sustainable Design Submittal: Submit VOC content documentation for adhesives.

E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Tile Carpeting:
   1. Philadelphia Commercial

2.02 MATERIALS

A. CPT-01: Tile Carpeting: Philadelphia; Unify
   1. Syle Number: 54521
   2. Product Type: Carpet Tile
   3. Construction: Multi-Level Pattern Loop
   4. Fiber: 100% Eco Solution Q100 Nylon
   5. Dye Method: Solution Dyed / Space Dyed
   6. Primary Backing: Synthetic
   7. Secondary Backing: Ecoworx

8. Traffic Rating: Severe
9. Protective Treatments: SSP Protective Treatments
10. Size: 24x24
11. Guage: 1/12 in
12. Stitches: 9 per in
13. Finished Pile Thickness: 0.104 in
14. Average Density: 6577 oz/yd3
15. Total Thickness: 0.246 in
16. Tufted Weight: 19 oz/yd2

B. CPT-02: Tile Carpet Walk-Off
1. Style Name: Step Right In, Walk this way Collection
2. Style Number: 54860
3. Product Type: Carpet Tile
4. Construction: Multi-Level Pattern Loop
5. Fiber: 100% Eco Solution Q100 Nylon
6. Dye Method: Solution Dyed
7. Primary Backing: Synthetic
8. Secondary Backing: Ecowor
9. Traffic Rating: Heavy
10. Protective Treatment: SSP
11. Product Size: 24 in x 24 in, cut as required for applicatioin
12. Gauge: 1/12 in
13. Stitches: 9 per in
14. Finished Pile Thickness: 0.121 in
15. Average Density: 8331 oz/yd3
16. Total Thickness: 0.269 in
17. Tufted Weight: 28 oz/yd2

2.03 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge strips and transitions: products as detailed or equivalent.

C. Edge Strips: Embossed aluminum, color as selected by Architect.

D. Stair Nosing: As specified in Room Finish Schedule.

E. Adhesives:
1. Compatible with materials being adhered; maximum VOC content as specified in Section 01 6116.

F. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
1. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

A. Remove existing carpet tile.

B. Verify that surfaces are smooth and flat with maximum variation of 3/16 inch in 10 feet, and are ready to receive Work.

C. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

D. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.
   1. Apply, trowel, and float filler to leave a smooth, flat, hard surface. Repair all floor irregularities.
   2. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.

E. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

F. Vacuum clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Trim carpet tile neatly at walls and around interruptions.

G. Complete installation of edge strips, concealing exposed edges.

3.04 INSTALLATION ON STAIRS

A. Use one piece of carpet for each tread and the riser below. Apply seam adhesive to all cut edges.

B. Lay carpet with pile direction in the length of the stair.

C. Adhere carpet tight to stair treads and risers.

3.05 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 7200
WALL COVERINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation and prime painting.

B. Wall covering Type WC-01 .

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on wall covering and adhesive.

C. Shop Drawings: Indicate wall elevations with seaming layout.

D. Verification Samples: submit two samples of wall covering 12" square in size (305 mm sq.).

E. Manufacturer's Installation Instructions: Indicate special procedures.

F. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

1.05 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 and with at least three years of documented experience.

1.06 MOCK-UPS

A. Provide panel, 2 panel drops wide, full height, illustrating installed wall covering and joint seaming technique.

B. Locate where directed.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Inspect roll materials at arrival on site, to verify acceptability.

B. Protect packaged adhesive from temperature cycling and cold temperatures.

C. Do not store roll goods on end.

1.08 FIELD CONDITIONS

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

B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surfaces.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design - Wall Coverings:
   1. Designtex refer to Interior Schedules for contact information
   2. National Solutions; Ink Spot Linen, Type II, Low VOC - refer to Interior Schedule

2.02 MATERIALS

A. Requirements for Wall Coverings:
   1. Flame Retardancy: ASTM E84 Class A / Class 1.

2. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.

B. Wall Covering: roll stock, conforming to the following:
   1. Total Weight: 20 oz/ly Type II
   2. Backing Osnaburg
   3. Repeat: N/A
   4. Match: Randome
   5. Reversible: Yes
   6. Roll Width: 54"
   7. Color: refer to material and color legend on Sheet A710.
   8. Green Information: Low VOC
   9. Product Specifications: SymphonyInkSpotLinen.pdf
   10. 10 year product warranty.

C. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.

D. Substrate Filler: As recommended by adhesive and wall covering manufacturers; compatible with substrate.

E. Substrate Primer and Sealer: Alkyd enamel type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are prime painted and ready to receive work, and comply with requirements of wall covering manufacturer.

B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply wall coverings if moisture content of substrate exceeds level recommended by wall covering manufacturer.

C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet (3 mm in 3 m) nor vary at a rate greater than 1/16 inch/ft (1.5 mm/300 mm).

3.02 PREPARATION

A. Verify that gypsum board substrate is finished to Level 4 to included two coats atop embedded joint tape, three coats on fasteners to ensure a smooth substrate for wall covering.

B. Fill cracks in substrate and smooth irregularities with filler; sand smooth.

C. Wash impervious surfaces with tetra-sodium phosphate, rinse and neutralize; wipe dry.

D. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

E. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.

F. Marks: Seal with shellac those that may bleed through surface finishes.

G. Apply one coat of primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.

H. Vacuum clean surfaces free of loose particles.

3.03 INSTALLATION

A. Apply adhesive and wall covering in accordance with manufacturer's instructions.

B. Apply adhesive to wall surface immediately prior to application of wall covering.

C. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.

D. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface.

E. Horizontal seams are not acceptable.

F. Do not seam within 2 inches (50 mm) of internal corners or within 6 inches (150 mm) of external corners.

G. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.

H. Do not install wall covering more than 1/4 inch (6 mm) below top of resilient base.

I. Where wall covering tucks into reveals, or metal wallboard or plaster stops, apply with contact adhesive within 6 inches (150 mm) of wall covering termination. Ensure full contact bond.

J. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.

3.04 CLEANING

A. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.

B. Reinstall wall plates and accessories removed prior to work of this section.

3.05 PROTECTION

A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 09 9000
PAINTING AND COATING - COMMERCIAL FACILITY GUIDE SPECIFICATION - SHERWIN-WILLIAMS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints and other coatings.

C. Scope: Finish elements to extent indicated on drawings. Finish newly installed interior and exterior surfaces exposed to view unless fully factory-finished and unless otherwise indicated and as follows:
   1. Items indicated to be painted on drawings or schedules.
   2. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   3. Exposed surfaces of steel angles and steel elements.
   4. Exposed open ceiling structure scheduled to paint. Field application of "dry fall white" to exposed deck, bar joists and columns.
   5. Mechanical and Electrical:
      a. In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated not to paint.
      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 fully factory-finished unless specifically so indicated to paint; 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, and operating parts of equipment.
   5. Non-metallic roofing and flashing; pre-finished flashings; galvanized flashings not exposed to view or otherwise noted to not to paint.
   6. Stainless steel, anodized aluminum, bronze, terne, and lead items.
   7. Granite and other natural stones.
   8. Floors, unless specifically so indicated.
   9. Ceramic and other tiles.
   10. Glass.
   11. Concealed pipes, ducts, and conduits.

E. Surface preparation.

F. Interior painting and coating systems.

1.02 RELATED REQUIREMENTS

A. Section 05 5000 - Metal Fabrications: Shop-primed items.

B. Section 09 2616 - Gypsum Board Assemblies: Texturing requirements for locations indicated on the Construction Documents to receive wall texture.

C. Section 22 0553 - Identification for Plumbing Piping and Equipment: Painted identification.

D. Section 26 0553 - Identification for Electrical Systems: Painted identification.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

C. SSPC-SP 2 - Hand Tool Cleaning; 2024.

D. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on all finishing products, including VOC content.

C. Samples: Submit two paper chip samples, 6" x 6" nominal in size illustrating specified colors and textures and sheens to be expected for each surface finishing product scheduled.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements for additional provisions.
   2. Extra Paint and Finish Materials: 1 gallon (4 L) of each color; from the same product run, store where directed.
   3. Label each container with color in addition to manufacturer's label.

1.05 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.06 MOCK-UPS

A. See Section 01 4000 - Quality Requirements for general requirements for mock-ups.

B. Provide one accent wall as directed by Architect to demonstrate color and finish.

C. Provide door and frame assembly indicating paint color, texture, and finish.

D. Locate where directed by Architect.

E. Mock-up may remain as part of the work.

1.07 REGULATORY REQUIREMENTS

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

1.08 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, product name, product code, color designation, VOC content, batch date, environmental handling, surface preparation, application, and use instructions.

C. Paint Materials: Store at a minimum 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.

1.09 FIELD CONDITIONS

A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.

B. Follow manufacturer's recommended procedures for producing the best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

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

D. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company (The) products indicated; www.sherwin-williams.com/#sle.

B. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

C. Paint Systems: Manufacturers and Colors.
   1. Product specifications listed in this Section and identified on Room Finish schedules are based on Sherwin-Williams Co. or Benjamin Moore products unless otherwise specifically indicated.
   2. Manufacturer and color selection on schedule is listed for color reference only and is not intended to require proprietary product use. Colors from any supplier used are intended to match the colors listed on the schedule.
   3. Products listed in this specification of the base manufacturer will be the quality standard used for any of the products supplied by alternate manufacturers.
   4. Other acceptable manufacturers:
      a. PPG Paints: www.ppgpaints.com
      b. HIS Coatings: www.hisppaint.com
      c. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTINGS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
   1. Provide paints and coatings 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 coating material in quantity required to complete entire project's work from a single production run.
   4. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer. Primers listed provide bid quality, but may require adjustment depending on substrate encountered. Make adjustments at no additional cost to Owner.

C. Volatile Organic Compound (VOC) Content:
   1. Provide coatings that comply with the most stringent requirements specified in the following:
      a. Architectural coatings VOC limits of Oklahoma City, Oklahoma.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method aacceptable to authorities having jurisdiction.

D. Colors: as indicated on the finish schedule.
   1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under unless otherwise noted.

2.03 SCHEDULE - INTERIOR PAINT SYSTEMS

A. Sheens listed on finish schedule are desired sheens. If a particular product by a manufacturer is not available in specified sheen, consult architect prior to order with available sheens for reselection.

B. Interior Paint Systems:
   1. Interior Ferrous HM Doors and Frames, Miscellaneous Metal, Handrails, etc. pre-primed or galvanized:
      a. Primer: SW 66-310 Series, Pro-Cryl Universal Metal Primer. (Spot prime bare areas, verify compatibility with shop primer).
      b. Finish: 2 coats SW B66-650 Series, Pro Industrial High Performance Acrylic Semi-gloss.
   2. Interior Drywall Walls:
      a. Primer: SW B28W2600 ProMar 200 Zero VOC Interior Latex Primer.
      b. Finish: 2 coats SW B20-2600 Series, ProMar 200 Zero VOC Interior Latex Eg-Shel; 4 mils wet, 1.6 mils dry.
   3. Interior Drywall Walls (epoxy coating):
      a. Primer: S-W ProMar 200 Zero VOC Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
      b. Finish: 2 coats S-W Pro Industrial Water Based Catalyzed Epoxy, B73-360 Series (5.0 mils wet, 2.0 mils dry per coat).
      c. Appppplication: Restrooms and Wet walls
   4. Interior Drywall Ceilings:
      a. Primer: SW B28W2600 ProMar 200 Zero VOC Interior Latex Primer.
      b. Finish: 2 coats SW B30-2600 Series ProMar 200 Zero VOC Interior Latex Flat.

C. Other conditions: for conditions not listed, use manufacturer's equivalent quality systems for condition encountered, sheens as selected, colors as selected.

D. Refer finish schedule on drawings for colors. If noted sheen is different than that indicated in this section, provide sheen on schedule if available, otherwise provide sheen listed above. Identify all proposed sheens on submittals.

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

2.05 PAINT SYSTEMS - INTERIOR

A. Metal: Aluminum and galvanized.
   1. Alkyd Systems, Water Based:
      a. Low Sheen Finish:
         1) 1st Coat: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series: www.sherwin-williams.com/#sle.
            (a) 5 mils wet, 2 mils dry per coat.
         2) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Water Based Alkyd Urethane Enamel Low Sheen, B53-1250 Series: www.sherwin-williams.com/#sle.

B. Metal, Galvanized: Ceilings and ductwork.
   1. Dryfall Waterborne Topcoats:
      a. Eg-Shel Finish:

1) 1st and 2nd Coat: Sherwin-Williams Pro Industrial Waterborne Acrylic Dryfall, B42-82 Series: www.sherwin-williams.com/#sle.
(a) 6 mils wet, 1.9 mils dry per coat.

C. Wood: Walls, ceilings, doors, and trim.
1. Stain and Varnish System:
a. Satin Finish:
1) 1st Coat: Sherwin-Williams Minwax Performance Series Tintable Wood Stain 250 VOC: www.sherwin-williams.com/#sle.
2) 2nd and 3rd Coat: Sherwin-Williams Minwax Waterbased Oil-Modified Polyurethane: www.sherwin-williams.com/#sle.

D. Drywall: Walls, ceilings, gypsum board, and similar items.
1. Latex Systems:
a. Eg-Shel Finish High Performance (HP):
1) 1st Coat: Sherwin-Williams ProMar 200 Zero VOC Interior Latex Primer, B28W2600: www.sherwin-williams.com/#sle.
(a) 4 mils wet, 1.5 mils dry per coat.
2) 2nd and 3rd Coat: Sherwin-Williams ProMar 200 HP Zero VOC Eg-Shel, B20-1950 Series: www.sherwin-williams.com/#sle.
(a) 4 mils wet, 1.7 mils dry per coat.
2. Epoxy Systems, Water Based:
a. Eg-Shel/Low Luster Finish:
1) 1st Coat: Sherwin-Williams ProMar 200 Zero VOC Interior Latex Primer, B28W2600: www.sherwin-williams.com/#sle.
2) 2nd and 3rd Coat: Sherwin-Williams Pro Industrial Water Based Catalyzed Epoxy, B73-360 Series: www.sherwin-williams.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of coatings until substrates have been properly 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 and factory or shop applied primers.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

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. Surfaces: Correct defects and clean surfaces which affect work of this section.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

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

H. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

I. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

J. Shop-Primed Steel Surfaces to be Finish Painted: 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.

K. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

L. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces unless fully galvanized.

M. Remove mildew from impervious surfaces by scrubbing with solution of water and bleach. Rinse with clean water and allow surface to dry.

N. Gypsum Board: Fill minor defects with filler compound; sand smooth and remove dust prior to painting.

O. 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.

P. 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. Prime bare steel surfaces.
   3. Remove rust, loose mill scale, and other foreign substances using methods recommended by paint manufacturer and blast cleaning according to SSPC-SP 6. Protect from corrosion until coated.

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. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

G. Apply final coat after major punch list is complete. Allow for touch up.

H. Sand metal surfaces lightly between coats to achieve required finish.

I. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

J. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

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

L. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.05 PRIMING

A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to top coat manufacturers.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.07 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 10 2116
SOLID PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Solid plastic floor mounted toilet compartments and urinal screens.
   2. Privacy Screens

B. Related Sections:
   1. Section 06 1000 – Rough Carpentry: providing blocking in walls to attached pilaster brace brackets.
   2. Section 05 5000 Metal Fabrication
   3. Section 10 2800 Toilet, Bath, and Misc. Accessories: devices mounting to partitions; auxiliary hooks for accessible partition locations.

1.02 REFERENCES

A. ASTM International (ASTM) :
   1. A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
   2. B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   3. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Fire Protection Association (NFPA) 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

1.03 SYSTEM DESCRIPTION

A. Compartment Configurations:
   1. Toilet partitions: Floor mounted, overhead braced.
   2. Urinal screens: Wall mounted with continuous wall brackets, screen cantilevered from wall and rigidly fastened to wall.

1.04 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Include dimensioned layout, elevations, trim, closures, and accessories.
   2. Product Data: Manufacturer's descriptive data for panels, hardware, and accessories.
   3. Verification Samples: 2 x 3 inch samples in each color specified.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum five (5) years experience in manufacture of solid plastic toilet compartments with products in satisfactory use under similar service conditions.

B. Installer Qualifications: Minimum five (5) years experience in work of this Section.

1.06 WARRANTIES

A. Provide manufacturer’s 25 year warranty against breakage, corrosion, and delamination under normal conditions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Contract Documents are based on products by Scranton Products. (www.scrantonproducts.com) - Hiny HIders

B. ASI Global Partitions Solid Plastic (HDPE)

C. Equivalent products by other listed manufacturers are acceptable. Provide all partitions of this section from a single manufacturer:
   1. Ampco Products: www.ampco.com
   2. Bradley: www.bradley.com .
   3. Metpar Corp: www.metpar.com
   4. Substitutions per Section 01 6000 approved prior to bid.

2.02 MATERIALS

A. Doors, Panels and Pilasters:
   1. High density polyethylene (HDPE), fabricated from polymer resins compounded under high pressure, forming single thickness panel.
   2. Waterproof and nonabsorbent, with self-lubricating surface, resistant to marks by pens, pencils, markers, and other writing instruments.
   3. 1 inch thick with edges rounded to 1/4 inch radius.
   4. Colors and Textures as indicated on Material and Color Legend of Sheet A710.
   5. Fire hazard classification: Pass NFPA 286.

B. Aluminum Extrusions: ASTM B221, 6463-T5 alloy and temper.

C. Stainless Steel: ASTM A167, Type 304.

2.03 STYLE AND CONFIGURATION

A. Floor Anchored / Overhead Braced.

2.04 HARDWARE

A. Hinges:
   1. 8 inches long, fabricated from heavy-duty extruded aluminum with bright dip anodized finish, wrap-around flanges, adjustable on 30-degree increments, through bolted to doors and pilasters with stainless steel, Torx head sex bolts.
   2. Hinges operate on field-adjustable nylon cams, field adjustable in 30 degree increments.

B. Door Strike and Keeper:
   1. 6 inches long, fabricate from heavy-duty extruded aluminum with bright dip anodized finish, with wrap-around flanges secured to pilasters with stainless steel tamper resistant Torx head sex bolts.
   2. Bumper: Extruded black vinyl.

C. Latch and Housing:
   1. Heavy-duty extruded aluminum.
   2. Latch housing: Bright dip anodized finish.
   3. Slide bolt and button: Black anodized finish.

D. Coat Hook/Bumper:
   1. Combination type, chrome plated Zamak.
   2. Equip outswing handicapped doors with second door pull and door stop.

E. Door Pulls: Chrome plated Zamak.

2.05 COMPONENTS

A. Doors and Dividing Panels: 55 inches high, mounted 14 inches above finished floor.

B. Pilasters: 82 inches high, fastened to pilaster sleeves with stainless steel tamper resistant Torx head sex bolt.

C. Pilaster Sleeves: 3 inches high, 20 gage stainless steel, secured to pilaster with stainless steel tamper resistant Torx head sex bolt.

D. Wall Brackets partitions: 54 inches long, Extruded PVC site proof each side of partition.

E. Wall Brackets urinal screens: heavy-duty aluminum, double ear, bright dip anodized finish, fastened to pilasters and panels with stainless steel tamper resistant Torx head sex bolts.

F. Headrail: Heavy-duty extruded aluminum, anti-grip design, clear anodized finish, fastened to headrail bracket with stainless steel tamper resistant Torx head sex bolt and at top of pilaster with stainless steel tamper resistant Torx head screws.

G. Headrail Brackets: 20 gage stainless steel, satin finish, secured to wall with stainless steel tamper resistant Torx head screws.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install compartments in accordance with manufacturer's instructions and approved Shop Drawings.

B. Install rigid, straight, plumb, and level.

C. Locate bottom edge of doors and panels 14 inches above finished floor.

D. Provide uniform, maximum 3/8 inch vertical clearance at doors.

E. Not Acceptable: Evidence of cutting, drilling, or patching.

3.02 ADJUSTING

A. Adjust doors and latches to operate correctly.

END OF SECTION

SECTION 10 2800
TOILET, BATH, MISC. ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet room accessories.

B. Grab bars.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Placement of blocking in drywall walls for attachment of accessories scheduled on such walls.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015a.

C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

D. ASTM C1036 - Standard Specification for Flat Glass; 2011.

E. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2008 (Reapproved 2013).

1.04 SUBMITTALS

A. See Section 01 3000 - 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.

1.05 COORDINATION

A. Coordinate the work with the placement of internal wall reinforcement to receive anchor attachments.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Products listed are made by Bobrick (www.bobrick.com).

B. Equivalent packages by the following companies are acceptable.
   1. American Specialties, Inc: www.americanspecialties.com/#sle.
   2. Bradley Corporation: www.bradleycorp.com/#sle.
   3. Substitutions: Section 01 6000 - Product Requirements.
      a. All items to be from a 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.
   a. Stainless Steel Sheet: ASTM A666, Type 304.

B. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

C. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
   a. Adhesive: Two component epoxy type, waterproof.

b. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

B. Galvanizing for Items Other than Sheet: Comply with ASTM A123/A123M; galvanize ferrous metal and fastening devices.

C. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.

D. Back paint components where contact is made with building finishes to prevent electrolysis.

2.04 COMMERCIAL TOILET ACCESSORIES

A. Sanitary Napkin Disposal
   1. Manufacturer: Bobrick Washroom Equipment
   2. Model: B-270
   3. Materials:
      a. **Container** — 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Integral finger depression for opening cover. Front of container has same degree of arc as front of cover and other Bobrick ConturaSeries washroom accessories. Radius on side edges of container match corners and edges of cover and other ConturaSeries accessories.
      b. **Cover** — 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction. Front of cover has same degree of arc as front of container and other Bobrick Contura Series washroom accessories. Radius on corners and edges of cover match side edges of container and other Contura Series accessories. Secured to container with a full-length stainless steel piano-hinge.
   4. Operation:
      a. Cover flips up for disposal of sanitary napkins and for servicing container.
   5. Installation:
      a. For partitions with particle-board or other solid core, secure with two #8 x 3/4" (4.2 x 19mm) sheet-metal screws (not furnished) at all points indicated by an *S*, or provide through-bolts, nuts, and washers.
      b. For hollow-core metal partitions, provide solid backing into which sheet-metal screws can be secured. If two units are installed back-to-back, then provide threaded sleeves and machine screws for the full thickness of partition.
      c. For masonry walls, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 3/16" (5mm) toggle bolts or expansion bolts.
      d. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure unit with sheet-metal screws.
   6. Specification:
      a. Surface-mounted sanitary napkin disposal shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Front of sanitary napkin disposal shall have same degree of arc and match other Bobrick ConturaSeries accessories in the washroom. Radius on corners and edges of sanitary napkin disposal shall complement other Bobrick ConturaSeries washroom accessories. Cover shall be drawn, one-piece, seamless construction and secured to container with a full-length stainless steel piano-hinge. Container shall have integral finger depression for opening cover.

B. Toilet Paper Dispenser: Owner provided, Contractor installed.

C. Paper Towel Dispenser: Owner provided, Contractor installed.

D. Frameless Mirrors: Frameless polished single piece plate glass mirror, 1/4 inch (6 mm) thick annealed float glass; ASTM C1503.
   1. Manufacturer: American Specialties, Inc.

2. Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
3. Size as indicated on drawings.
4. Material: Glass: Standard glazing #1 quality, 1/4" thick plate/float, silver coated and herme tically sealed with a uniform coating of electrolytic copper plating, warranted against silver s poilage for 15 years.
5. Meets Federal Spec. DD-M-411C, ASTM C-1503, and ASTM C-1036-91
6. Frame: Frameless 1/4" Plate Glass, Polished
7. Location: refer to interior elevations.
8. Mounting: Surface Mounted
9. American Specialties, Inc. (ASI); Model 8287

E. Grab Bars: Stainless steel, satin surface.
1. Manufacture: Bobrick Washroom Equipment B-5806
2. 1 1/4" diameter with snap flange.
3. Concealed mounting flange.
4. Configuration as indicated on drawings.
5. Materials:
   a. 18-8, type-304, 18-gauge (1.2mm) stainless steel tubing with satin-finish. 1-1/4" (32mm) outside diameter. Ends are heliarc welded to concealed mounting flanges. Clearance between the grab bar and wall is 1-1/2" (38mm).
6. Concealed Mounting Flanges:
   a. 18-8, type-304, 11-gauge (3.2mm) thick, stainless steel plate; end flanges 2" x 3-1/8" (50 x 80mm) with holes for attachment to wall. Intermediate flanges 2-5/8" x 3-1/8" (65 x 80mm) wide x 3-1/8" (80mm) diameter.
7. Snap Flange Covers:
   a. 18-8, type-304, 22-gauge (0.8mm) drawn stainless steel with satin-finish. 3-1/4" (85mm) diameter x 5/8" (16mm) deep. Each cover snaps over mounting flange to conceal mounting screws.
8. Strength:
   a. support loads in excess of 900 pounds (408kg
9. Installation:
   a. Provide concealed anchor device or backing as specified or required in accordance with local building codes before wall is finished. Fasten concealed mounting flanges to anchor device or backing with at least two screws opposing each other in each flange. Snap flange covers over each mounting flange to conceal mount- ing screws. Concealed anchor devices and mounting screws are not included with Bobrick grab bars and must be specified as an accessory.
   b. For Grab Bars with an Intermediate Flange(s), Pull Snap-Flange Covers away from mounting flanges. Place grab bar in desired mounting location. Use intermediate flange as a template to mark location of mounting screws at intermediate flange only. Mark screw locations at the center of the slot in the middle of the double-keyhole shaped mounting holes (2) in the intermediate flange. Remove grab bar from wall. Drive the intermediate flange mounting screws into wall at marked locations. **Note:** Make sure to leave a space of just over 1/8" (3.17mm) between the underside of the screw head and the wall. Install grab
   c. bar on the wall by placing the round ends of the intermediate flange double-keyhole shaped mounting holes over the mounting screws (2) are located in the
   d. middle of the flange slots. Install the mounting screws into the wall at the end flanges and secure tightly. Tighten the mounting screws at the intermediate flange. Press all snap-flange covers into place to conceal mounting flanges.
   e. **Note:** Recommend use of 1/4" or #14 sheet metal or wood screws to install Intermediate Flange. #12 screws may also be used.

10. Mounting Kits: Bobrick mounting kit is required for each flange.

2.05 ROBE HOOKS:

A. Robe Hook: Heavy-duty satin stainless steel, single prong, concealed mounting plate.

2.06 BABY CHANGING STATION

A. Baby Changing Station: Wall Mounted Stainless Steel Finish
   1. Manufacturer: Koala Kare Products.
   2. Product: KB110-SSWM Horizontal Wall Mounted
   3. Materials: 18 gauge, type 304 satin stainless steel exterior finish with blow molded high-density grey polyethylene with Microban® antimicrobial interior. Reinforced full-length steel-on-steel hinge mechanism, with 11-gauge steel mounting plates and mounting hardware included. Molded-in graphics and safety messages in six languages. Contoured changing surface area is 442 sq. in (2852 sq. cm) and comes complete with nylon safety straps and bag hooks.
   4. Operation: Concealed pneumatic cylinder and hinge structure provides controlled, slow opening and closing of bed. High-density polyethylene is easy to clean and resists odors and bacterial growth. Complies with ASTM static load performance requirements when properly installed. Built-in liner dispenser holds approximately 25 KB150-99 sanitary liners.
      a. Warning: To ensure that the unit supports the intended loads, baby changing stations must be properly installed according to the manufacturer's instructions.
   5. Specifications: Baby changing station shall have 18-gauge satin stainless steel exterior finish with high-density polyethylene with Microban antimicrobial interior. Design of unit shall be surface-mounted. Unit shall be equipped with a pneumatic cylinder for controlled opening and closing of bed. Bed shall be secured to back plate with a concealed, full-length steel-on-steel hinge. Unit shall have Microban® antimicrobial embedded into plastic material. No hinge structure shall be exposed on interior or exterior surfaces. Unit shall have 11-gauge steel mounting plates with mounting hardware included. Unit shall conform to ICC A117.1-2009 Accessible and Usable Buildings and Facilities, ASTM F 2285-04 Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use, ANSI Z535.4 Product Safety Signs and Labels, and ASTM G21 Antifungal Standards or local code if more stringent installation requirements are applicable for barrier free accessibility. Unit shall comply with ADA regulations when properly installed. Bed shall have smooth concave changing area with a nylon safety strap and two hooks for bags or purses. Unit shall have a built-in Liner Dispenser for use with 3-ply chemical free biodegradable sanitary liners, universal instruction graphics and safety messages in 6 languages. Unit shall be backed by manufacturer's 5-year limited warranty on materials and workmanship and include a provision for replacement caused by vandalism. Unit shall be manufactured in the U.S.A.
   6. Installation:
      a. To ensure proper installation and compliance to building codes, it is recommended that a qualified person or carpenter perform the installation of the unit. The unit must be properly installed onto a permanent wall that is capable of supporting significant weight and can accommodate the supplied installation hardware. The Koala Baby Changing Station meets ADA regulations when properly installed.
      b. Drilling holes and mounting the station:
         1) Remove the station from the shipping container and check for any freight damage. Identify the best location for installing the baby changing station. Hold the unit in place, open the bed, and make sure that there is adequate operating clearance.
         2) Based upon the type of wall on which the unit will be mounted, determine the best method of mounting. Not all of included hardware may be required for proper installation.

3) The horizontal unit has four mounting holes provided in the back wall of the unit, which are positioned on a 32” (813 mm) stud center. If possible, locate the wood or metal wall studs for fastening the changing station in the desired location. If the walls do not have studs on the center as outlined, make sure at least one side of the unit is installed into the stud. Use toggles (not supplied) for holes on the other side.
4) Find the stud where you will be attaching the left side of the changing station to the wall. Measure 44” (1,118 mm) up from the floor, at the center of the stud, and mark the wall. Line up the top left mounting hole with this mark, then use a measuring tape and level to mark the remaining three mounting holes. This will locate the bottom of the station 26½” (673 mm) and the top of the bed at 33” (838 mm) from the floor.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

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 or where directed if not indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings

3.04 SCHEDULE

A. Refer to the drawings for additional locations and mounting information unless noted above.

END OF SECTION

SECTION 10 4416
FIRE EXTINGUISHERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire Extinguishers.

B. Fire Extinguisher Cabinet.

C. Accessories.

1.02 PERFORMANCE REQUIREMENTS

A. Conform to NFPA 10.

B. Provide extinguishers and cabinets classified and labeled by Underwriters Laboratories Inc. forthe purpose specified and indicated.

1.03 SUBMITTALS

A. See Section 01 3000 - ADMINISTRATIVE REQUIREMENTS, for submittal procedures.

B. Product Data: Provide extinguisher operational features and color and finish.

1.04 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

1.05 COORDINATION

A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

1.06 FIELD CONDITIONS

A. Install extinguishers after building is conditioned and maintained from freezing.

1.07 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure of hydrostatic test according to NFPA 10 when testing interval required by NFPA 10 is within the warranty period.
      b. Faulty operation of valves or release levers.
   2. Warranty Period: Six years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

2.02 MANUFACTURERS

A. Fire Extinguisher and Accessories:
   1. Activar Construction Products Group: www.activarcpg.com
   2. JL Industries, Inc: www.jlindustries.com.
   3. Larsen's Manufacturing Co: www.larsensmfg.com.
   4. Nystrom, Inc: www.nystrom.com
   5. Potter-Roemer: www.potterroemer.com.
   6. Pyro-Chem, a Tyco Business: www.pyrochem.com.

2.03 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicablecodes, whichever is more stringent.

1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and asindicated.

B. Dry Chemical Type Fire Extinguishers: Cast steel tank, with pressure gage.
   1. Class A,B,C.
   2. Size 10. Unless otherwise indicated.
   3. Finish: Baked enamel, red color.

2.04 FIRE EXTINGUISHER CABINETS

A. Cabinet Configuration (FEC locations): Semi-recessed type with 2-1/2" projection.
   1. Larsen Architectural Series or equivalent.
   2. Size to accommodate accessories. Base bid on 2409-6R nominal rough in of 25"H x 10 1/2"W x 4" D
      a. Note: verify recess projection at location to be installed for available depth. 3-1/2" projection is acceptable if needed: (2409-R4)
   3. Trim: 2 1/2" rolled edge, semi-recessed. See 2a for optional projection maximum to remain ADA compliant.
   4. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.

B. Door: solid panel, 1/2 inch (12.7 mm) thick, reinforced for flatness and rigidity; with latch with "Larsen-lock" for vandalism or unauthorized opening control. Hinge doors for 180 degree opening with continuous piano hinge. Provide roller type catch.
   1. Recessed handle.

C. Door Text: "FIRE EXTINQUISHER" lettering, type A; black. Vertical orientation.

D. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.

E. Finish of Cabinet Exterior Trim and Door: Baked enamel, white color.

F. Finish of Cabinet Interior: White colored enamel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.
   1. Remove and replace damaged, defective, or undercharged fire extinguishers.

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

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Refer drawings for locations and mounting height. Verify with Owner prior to install or construction rough opening and surround.

C. Secure rigidly in place.

D. Place extinguishers in cabinets prior to substantial completion review inspection by the AHJ. Just prior to visit, inspect and change any out-of-date extinquishers. All extinquishers shall bear inspection tag.

3.03 SCHEDULES

A. Refer drawings for locations.

END OF SECTION

SECTION 21 0000
FIRE SUPPRESSION

GENERAL

1.01 - SCOPE:

2.01 THE FIRE SUPPRESSION SYSTEM MODIFICATION SHALL BE PROVIDED BY THE TRADES.

A. The Fire Suppression Sub-Contractor shall be responsible to review existing conditions and the Architectural Plans and provide design and installation of systems to meet requirements of the Project and The City of Moore Codes, Ordinances and requirements.

B. Provide Submittals of work to be completed for review and information.

END OF SECTION

SECTION 22 0000
PLUMBING

GENERAL

1.01 SCOPE

A. System modification and additions shall be provided by the Trades.

B. The Plumbing Sub-Contractor shall be responsible to review existing conditions and the Architectural Plans and provide design and installation of systems to meet requirements of the Project and City of Moore Codes, Ordinances and requirements.

C. Refer to Architectural Plans for Plumbing Fixtures Basis of Design and Drinking Fountains

D. Provide Submittals of work to be completed for review and approval

END OF SECTION

SECTION 23 0000
HEATING, VENTILATION AND AIR-CONDITIONING (HVAC)

GENERAL

1.01 SCOPE

A. System modification and additions shall be provided by the Trades.

B. The HVAC Sub-Contractor shall be responsible to review existing conditions and the Architectural Plans and provide design and installation of systems to meet requirements of the Project and City of Moore Codes, Ordinances and requirements.

C. Provide Submittals of work to be completed for review and approval

END OF SECTION

SECTION 26 0000
ELECTRICAL POWER AND LIGHTING SYSTEMS

GENERAL

1.01 SCOPE

A. Electrical Power and Lighting Systems modification and additions shall be provided by the Trades.

B. The Electrical Sub-Contractor shall be responsible to review existing conditions and the Architectural Plans and provide design and installation of systems to meet requirements of the Project and the City of Moore Codes, Ordinances and requirements.

C. Provide Submittals of work to be completed for review and approval

END OF SECTION