Attachment A

CONSULTANT/PROFESSIONAL SERVICES PROVIDER AGREEMENT BY AND BETWEEN THE CITY OF VICTORVILLE AND J.K. MIKLIN, INC. DBA YAMADA ENTERPRISES FOR PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE, JM25-025

THIS CONSULTANT/PROFESSIONAL SERVICES PROVIDER AGREEMENT (hereinafter "**Agreement**"), is made and entered into by and between THE CITY OF VICTORVILLE, a California charter city and municipal corporation, hereinafter referred to as the **"City**", and **J.K. Miklin, Inc. dba Yamada Enterprises**, a California corporation, hereinafter referred to as "**Consultant**." City and Consultant are sometimes hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**."

RECITALS:

WHEREAS, the City requires Consultant/Professional Services to provide Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for the new Library and Green Tree Golf Course Clubhouse, as described in the Request for Proposals ("**RFP**") issued for Project No. JM25-025 (the "**Project**") ; and

WHEREAS, Consultant provided a response to the RFP for said Project and following an evaluation process was selected by the City to be the provider of Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for the new Library and Green Tree Golf Course Clubhouse; and

WHEREAS, Consultant represents that it is fully qualified to perform the professional services required for performance under this Agreement by virtue of its experience and the training, education and expertise of its principals and its employees; and

WHEREAS, in light of the facts set forth above, the City desires to retain the services of a qualified Consultant to provide, on an independent contractor basis, Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for the new Library and Green Tree Golf Course Clubhouse for the Project.

NOW THEREFORE, IN CONSIDERATION OF THE COVENANTS, CONDITIONS, AND PROMISES CONTAINED HEREIN AND FOR SUCH OTHER GOOD AND VALUABLE CONSIDERATION, RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, THE PARTIES HERETO AGREE AS FOLLOWS:

Section 1. RECITALS

The Recitals set forth above are true and correct and are hereby incorporated into this Agreement by this reference, as though set forth fully herein.

Section 2. **SCOPE OF SERVICES**

Consultant shall provide to the City those services set forth in the Scope of Services, attached hereto as **Exhibit "A"** and incorporated as part of this Agreement by this reference. In the event of a conflict with or inconsistency between the terms of this Agreement and **Exhibit "A"**, the provisions of this Agreement shall prevail, and nothing set forth in **Exhibit "A"** shall be deemed to supersede any of the provisions of this Agreement. Consultant's obligations hereunder shall further include all provisions and terms and conditions set forth in the RFP for the Project identified in the above Recitals (including any City-issued Addenda pertaining thereto). Said RFP is incorporated and made part of this Agreement by this reference. To the extent there is a conflict between the provisions of the RFP and this Agreement, the provisions of this Agreement shall prevail.

Section 3. **COMPENSATION**

The City shall pay to Consultant a sum not to exceed **Seven Hundred Sixty-two Thousand Seven Hundred Thirty-one and 35/100 Dollars ($762,731.35)** for faithful performance of the services to be rendered under this Agreement, subject to the Proposal provisions of Section 4, below. No expense reimbursements, including, but not limited to, reimbursements for travel, parking, lodging, and/or meals shall be paid to Consultant unless such expense reimbursements: (i) are specifically provided for and described by nature and type in **Exhibit "B"**, below; (ii) appear on Consultant's monthly invoices to City; (iii) are supported by the appropriate receipts and other such documentation as the City shall require; and (iv) are directly related to the Scope of Services to be performed under this Agreement. In addition, any and all reimbursements shall be made in accordance with any City policy governing same.

Section 4. **COST PROPOSAL**

The City shall pay Consultant as provided in the Cost Proposal, attached hereto as **Exhibit "B"** and incorporated as part of this Agreement by this reference. The provisions of **Exhibit "B"** notwithstanding, in order to receive payments, Consultant shall be required to submit to the City detailed monthly invoices which include, if applicable, a description of all services/tasks performed, the number of hours expended on each service/task, the name of the person performing the service/task, and expense reimbursement information, if any, as required by Section 3, above. Provided that services have been satisfactorily rendered, invoices shall be paid by the City approximately thirty (30) working days following receipt of Consultant's invoice. In the event of a conflict or inconsistency between this Agreement and Consultant's Cost Proposal attached as **Exhibit "B"**, the provisions of this Agreement shall prevail, and nothing set forth in **Exhibit "B"** shall be deemed to supersede any of the provisions of this Agreement.

Section 5. **STATE PREVAILING WAGE AND RELATED LABOR PROVISIONS**

a. Compliance with State Prevailing Wage Law. Pursuant to California Labor Code Section 1773, the City has obtained from the Director of the Department of Industrial Relations ("**DIR**") the general prevailing rate of per diem wages and the general prevailing wage rate for holiday and overtime work applicable for each craft, classification, or type of worker in San Bernardino County, California, where the Project is to be performed. Copies of these prevailing rate of per diem wages are on file at the City of Victorville Finance Department/Purchasing Division and shall be made available for review to any interested party on request. Copies of these prevailing rate of per diem wages are also available from the State of California via the internet at

http://www.dir.ca.gov/DLSR/PWD. Consultant and its subconsultants/subcontractors shall pay not less than said specified prevailing rate of per diem wages to all workers employed by them in the performance of any work under this Agreement which constitutes "public works" or "public work", including without limitation, the Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for the new Library and Green Tree Golf Course Clubhouse, and any other work or services described in or encompassed by California Labor Code ("**Labor Code**") Sections 1720 through 1720.9, 1771, and 1772. Consultant shall be solely responsible for using the correct and current prevailing wage rates and performing accordingly. An error on the part of any awarding body does not relieve the Consultant from the responsibility for payment of the correct prevailing wage, or compliance with the maintenance and inspection of payroll records, posting of prevailing wage rates at the work/job site, employment of apprentices, and other requirements of Labor Code Section 1720 *et seq*.; Labor Code Section 1810 *et seq*.; California Code of Regulations, Title 8, Section 16000 *et seq*.; and all other applicable State labor laws.

b. Designation as Consultant Not Determinative. For purposes of this Agreement, Consultant, its subconsultants and/or subcontractors shall be subject to and shall comply with all provisions of the Labor Code applicable to contractors and subcontractors when they are engaged in the performance of any work under this Agreement which constitutes "public works" or "public work" as defined in subsection a above, despite being designated as a Consultant or subconsultant herein.

c. Conflict. It is further expressly agreed by and between the Parties hereto that should there be any conflict between the provisions of this Section 5 and the terms of **Exhibit "A"** or **Exhibit "B"** of this Agreement, the provisions of this Section 5 shall control, and nothing herein shall be considered as an acceptance of the terms of Consultant's Scope of Services, Scope of Work, or Cost/Bid Proposal which conflict with the provisions of this Section 5.

d. Payroll Records. Consultant and its subconsultants/subcontractors must comply with the provisions of Labor Code sections 1776 and 1812 and all implementing regulations, including without limitation, those set forth in Title 8 of the California Code of Regulations, Section 16000 *et seq*. (hereinafter the "**Regulations**"), which are fully incorporated by this reference, **including requirements for electronic submission of payroll records to the DIR.**

(1) Consultant and Subconsultant/Subcontractor Obligations. Consultant and each subconsultant or subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(a) The information contained in the payroll record is true and correct; and

(b) Consultant and or subconsultant/subcontractor has complied with the requirements of Labor Code Sections 1771, 1811, and 1815 for any covered work performed by its employees on the Project.

(2) Certified Record. A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to the City, to the Division of Labor Standards Enforcement, to

the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(3) Enforcement. Upon notice of noncompliance with Labor Code Section 1776, Consultant and/or subconsultant/subcontractor has ten days in which to comply with the requirements of this section. If Consultant and/or subconsultant/subcontractor fails to do so within the ten-day period, Consultant and/or subconsultant/subcontractor will forfeit a penalty of $100.00 per day, or portion a day, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Consultant and/or subconsultant/subcontractor.

(4) Payment of Invoices. Copies of the certified payrolls, proof of payroll submissions, and appropriate lien releases are required with each invoice to the City. Payment of the invoice may be delayed when payroll-related documents and/or lien releases are not included with the invoice.

e. Apprentices. Consultant is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code section 1777.5, which is fully incorporated by reference.

f. Notices. Pursuant to Labor Code section 1771.4, Consultant is required to post all Job Site notices, including prevailing wage rates and other notices, as required by regulation.

g. Other Labor Requirements. Consultant has the responsibility for and shall comply with all other applicable requirements of Labor Code Section 1720 *et seq*., Labor Code Section 1810 *et seq*., the Regulations, and all other applicable State labor laws. Consultant further acknowledges and agrees that it will be independently responsible for reviewing the applicable laws and regulations and effectuating compliance with those laws. Consultant shall require the same of all its subconsultants or subcontractors.

h. Statutory Penalties. The statutory penalties for failure to pay prevailing wage or to comply with State wage and hours laws will be enforced as follows:

(1) Pursuant to Labor Code section 1775, the Consultant and any subcontractor/subconsultant under it shall forfeit as a penalty to the City not more than Two Hundred Dollars ($200.00), for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined by the Director of the DIR for such work or craft in which such worker is employed for any public work done under this Agreement by it or by any subcontractor/subconsultant under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Consultant and/or subconsultant/subcontractor as provided for in Section 1775.

(2) Pursuant to Labor Code Section 1813, Consultant and its subconsultants or subcontractors shall, as a penalty to the City, forfeit twenty-five dollars ($25) for each worker employed in the execution of this Agreement by the respective Consultant or subconsultant/subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one

calendar week, except as specified in Labor Code Section 1815. In accordance with the provisions of Labor Code Section 1810 *et seq*., eight (8) hours is the legal working day.

i. DIR Monitoring. Pursuant to Labor Code Section 1771.4, this Agreement is subject to compliance monitoring and enforcement by the DIR.

j. DIR Registration. Pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and its subconsultants/subcontractors must be registered with the DIR prior to the execution of a contract to perform public works. By entering into this Agreement, Consultant represents that it is aware of the registration requirement and is currently registered with the DIR. Consultant shall maintain a current registration for the duration of the Agreement. Consultant shall further include the requirements of Labor Code Sections 1725.5 and 1771.1 in any subcontract and ensure that all subconsultants/subcontractors are registered at the time this Agreement is entered into and maintain registration for the duration thereof.

Section 6. TERM OF AGREEMENT

Unless earlier terminated in accordance with the provisions in Section 21 of this Agreement, the term of this Agreement shall be for a period commencing on the date of full execution of the Agreement and expiring **June 30, 2026** (the "**Initial Term**"). From and after said expiration date, and upon subsequent written Agreement by the Parties, this Agreement may continue on a month-to-month basis until terminated pursuant to Section 21 below.

Section 7. INDEPENDENT CONTRACTOR STATUS

a. City retains Consultant on an independent contractor basis and not as an employee. The Parties hereto warrant and represent that Consultant is an independent contractor and not an employee, agent, joint venture, or partner of the City. The services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods, and details of performing the Services subject to the requirements of this Agreement. Any employees performing the Services under this Agreement on behalf of Consultant shall also not be employees of City and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such employees in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional employees, including: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

b. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between the City and Consultant or between the City and any of Consultant's employees performing the Services under this Agreement on behalf of Consultant. The City will not be requested or demanded to assume any liability for the direct payment of any salary, wage, or other compensation or benefits to any person employed by Consultant to perform the services described herein. Both Parties acknowledge that neither Consultant, nor any of its employees are considered City employees for state or federal tax purposes or for any other purpose. Consultant shall retain the right to perform services for others during the term of this Agreement, provided that such work does not create a conflict of interest. Nothing in this Agreement shall be interpreted to imply that the Parties must maintain any contractual relationship with each other on a continuing basis after termination of this Agreement. Nothing contained in this Agreement shall prevent the City from hiring Consultant's employees after termination of this Agreement.

c. Any provision of this Agreement that may appear to give the City a right to direct Consultant concerning the details of performing its obligations and/or duties under this Agreement, or to exercise any control over such performance, shall mean only that Consultant shall follow the direction of the City concerning the end results of the performance.

Section 8. NOT AGENT OF THE CITY

a. Nothing contained in this Agreement shall be deemed, construed, or represented by the City or Consultant or by any third person to create the relationship of principal and agent.

b. Consultant shall have no authority, express or implied, to act on behalf of the City in any capacity whatsoever as an agent, nor shall Consultant have any authority, express or implied, to bind the City to any obligation whatsoever.

Section 9. PRINCIPAL REPRESENTATIVES

a. **Parker Braverman, President** or his designee, is designated as the principal representative of Consultant for purposes of communicating with the City on any matter associated with the performance of the services set forth in this Agreement.

b. **Donna Meester, Director of Community Services,** or her designee (hereinafter "**City Project Manager**") shall be the principal representative of the City for purposes of communicating with Consultant on any matter associated with the performance of the services set forth in this Agreement, and such other functions and duties as are specified elsewhere in this Agreement.

c. Either Party may designate another individual as its principal representative by giving written notice of such designation to the other Party.

Section 10. LICENSES AND PERMITS

Consultant warrants and represents that it has obtained and will maintain at all times during the Initial Term of this Agreement and during any extensions or Option Periods, if applicable, all business licenses, including but not limited to, a City of Victorville business license, professional licenses or certifications, or permits necessary for performing the services described in this Agreement. A valid California contractor's license of the type/class(es) specified in the RFP, shall be held or obtained by consultant and/or its subcontractors prior to commencing any Work hereunder and maintained throughout the term of this Agreement.

Section 11. STANDARD OF PERFORMANCE; WARRANTIES

a. Consultant agrees to perform all services required by this Agreement in a professional and competent manner, in accordance with the degree of skill and diligence which is normally employed by reputable professionals performing similar services under similar conditions in the same or similar locality. Such services shall also be performed in a manner which is reasonably satisfactory to City's Project Manager.

b. By executing this Agreement, Consultant warrants that it:

(1) Has thoroughly investigated and considered the services and work to be performed;

(2) Has investigated the issues regarding the scope of services to be provided;

(3) Has carefully considered how the services and related work should be performed; and

(4) Fully understands the facilities, difficulties and restrictions associated with performance of the services required by this Agreement.

Section 12. FAMILIARITY WITH WORK

Should Consultant discover any latent or unknown conditions materially differing from those inherent in the services or as represented by the City, Consultant shall immediately inform the City of such fact and shall not provide any services, except at Consultant's risk, until written instructions are received from City's Project Manager.

Section 13. CONFLICTS OF INTEREST

a. Consultant warrants and represents that it has no known relationships with third parties, City Council members, or employees of City which would: (1) present a conflict of interest pursuant to California Government Code Section 1090, the Political Reform Act (*Government Code § 81000 et seq*.), or any other applicable conflict or interest law; or (2) prevent Consultant from performing the Services required by this Agreement.

b. Consultant covenants that it does not have any interest, nor shall it acquire any interest, directly or indirectly, which would conflict in any manner with the performance of Consultant's services under this Agreement or which would constitute a violation of any conflict-of-interest law, including Section 81000 *et seq*. or Section 1090 *et seq*. of the California Government Code. Consultant further covenants that in the performance of services under this Agreement, no officer, employee or agent of Consultant having such interest shall be employed by it.

c. Acquisition or maintenance of a conflicting interest by Consultant may result in termination of this Agreement by the City.

d. In the event the City determines that Consultant must disclose its financial interests by completing and filing a Fair Political Practices Commission Form 700, Statement of Economic Interests, Consultant shall file such Form 700 with the City Clerk's Office pursuant to the written instructions provided by the City Clerk.

Section 14. COMPLIANCE WITH LAWS

a. Consultant shall comply with all local, state, and federal laws and regulations applicable to the services to be rendered hereunder, including any rule, regulation, or bylaw governing the conduct or performance of Consultant or its employees, officers, or board members. Consultant shall not discriminate in the employment of persons or in the provision of services under this Agreement on the basis of any legally protected classification, including race, color, national origin, ancestry, sex or religion of such person.

b. Consultant and all subcontractors shall further comply with: the California Fair Employment and Housing Act (*Cal. Gov. Code §12900 et seq*.) and the regulations promulgated thereunder (Cal. Code Regs., tit. 2, §11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code §§ 11135-11139.5), and the regulations or standards adopted by the State Library to implement such article. Consultant shall not hire or employ any person to perform work within the City or allow any person to perform work required under this Agreement unless such person is properly documented and legally entitled to be employed within the United States. The consultant and all subcontractors shall also comply with the requirements of the Drug-Free Workplace Act of 1990 (*Cal. Gov. Code §8350 et seq*.).

c. **Additional State Grant Requirements.**

(1) Consultant has been advised and acknowledges that the Project is being funded in whole or in part with A California State Library Grant **(Award Agreement Number BF-2-21-011**). Consultant shall be required to comply with all applicable provisions of that Grant Award Agreement, including without limitation, the following:

(a) Non-Discrimination. Consultant and subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, or military and veteran status. Consultant shall insure that the evaluation and treatment of contractors, employees and applicants for employment are free from such discrimination and harassment.

(b) Access. Consultant shall permit access by representatives of the Department of Civil Rights and the State Library upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or the State Library shall require ascertaining compliance with this clause. Consultant and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. (See Cal. Code Regs., tit. 2, §11105.). Such access is in addition to the audit access requirements set forth in Section 17 of this Agreement.

(c) Russian Sanctions. Executive Order N-6-22 – Russian Sanctions: On March 4, 2022, Governor Gavin Newsom issued Executive Order N6-22 (the "EO") regarding economic sanctions in response to Russian aggression in Ukraine. The EO is located at https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia -Ukraine-Executive-Order.pdf.

Compliance with the economic sanctions imposed in response to Russia's actions in Ukraine is required, including with respect to, but not limited to, the federal EO identified in the EO and the sanctions identified on the U.S. Department of the Treasury website at https://home.treasury.gov/policy-issues/financial-sanctions-programs-and-and-country-information/ukraine-russia-related-sanctions.

Consultant represents that it is not a target of economic sanctions. Should it be determined that Consultant is a target of economic sanctions or is conducting

prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this Contract.

(2) Said Grant Award Agreement is on file in the Victorville City Clerk's Office and is hereby incorporated as part of this Contract by this reference.

Section 15. INSURANCE

a. Required Policies. Consultant shall be required to procure and maintain at its own expense at all times during the term of this Agreement (and during any option or extension periods) the following policies of insurance:

(1) **Commercial General Liability Insurance** ("CGL") of not less than One Million Dollars ($1,000,000) per occurrence, and Two Million Dollars ($2,000,000) in the aggregate, for bodily injury, personal injury, death, loss, or damage resulting from the acts or omissions of the Consultant or its officers, employees/personnel, servants, volunteers, agents, and Subcontractors.

(2) **Commercial Vehicle Liability Insurance** covering personal injury and property damage, of not less than One Million Dollars ($1,000,000) combined single limit, covering any vehicle utilized by Consultant or its officers, employees/personnel, servants, volunteers, agents, and Subcontractors in performing the services required by this Agreement.

(3) **Professional Liability or Errors and Omissions Insurance** as appropriate to Consultant's profession written on a policy form specifically designed to provide coverage for and protect against the negligent acts, errors, and omissions of the Consultant in the performance of the services required by this Agreement. A minimum limit of One Million Dollars ($1,000,000) per claim and in the aggregate must be provided.

(4) **Workers' Compensation Insurance**, as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.

(5) Reserved.

(6) Reserved.

b. Additional Insurance Requirements. With respect to the policies of insurance set forth above, compliance with the following is also required:

(1) **Additional Insureds**. Notwithstanding any inconsistent statement in any required insurance policies or any subsequent endorsements attached thereto, all insurance policies, except for the Workers' Compensation and Professional Liability, shall be endorsed, with coverage at least as broad as ISO form CG 20 10, to name the City and its officers, employees, servants, volunteers, agents, and independent contractors, including, without limitation, the City Attorney, as Additional Insureds.

(2) **Waiver of Subrogation**. Consultant shall require the carriers of all required insurance policies, with exception of the Professional Liability policy, to waive all rights of subrogation against the City and its officers, employees, servants, volunteers,

agents, independent contractors, and subcontractors. Each policy of insurance shall be endorsed to reflect such waiver.

(3) **Sufficiency of Insurers**. Consultant must secure all required policies of insurance from a good and responsible company or companies authorized to do insurance business in the State of California, with an AM Best's rating of not less than A:VII.

(4) **Proof of Insurance Coverage**. Consultant shall furnish to the City Clerk certificates of insurance evidencing the required coverages and policy endorsements at least ten (10) business days prior to the commencement of any services to be performed under this Agreement, and two weeks prior to each policy expiration date thereafter, evidencing that the policy has been renewed or replaced with adequate coverages.

(5) **Cancellation or Amendment**. The policies shall be endorsed to provide that in the event of cancellation or amendment of any required insurance policy for any reason whatsoever, the City shall be notified by mail, postage prepaid, not less than thirty (30) days before the cancellation or amendment is effective. In the case of cancellation for non-payment, ten (10) days advance written notice shall be given.

(6) **Primary and Non-Contributory**. The CGL and Vehicle Liability policies shall be endorsed as Primary and Non-contributory.

c. Right to Modify Insurance Requirements. The City reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

d. If Consultant maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

Section 16. REPORTS

Upon request by City's Project Manager or as otherwise required by this Agreement, including but not limited to, the Scope of Services set forth in Exhibit "A", Consultant shall prepare and submit reports to the City concerning Consultant's performance of the services required by this Agreement.

Section 17. RECORDS

a. Consultant shall keep such books and records as shall be necessary to perform the services required by this Agreement and enable City's Project Manager to evaluate the cost and the performance of such services.

b. Books and records pertaining to costs shall be kept and prepared in accordance with generally accepted accounting principles.

c. City's Project Manager shall have full and free access to such books and records at all reasonable times, including the right to inspect, copy, audit, and make records and transcripts from such records.

d. Records and supporting documents pertaining to the use of funds paid to Consultant hereunder shall be retained by Consultant and made available to City's Project Manager, for purposes of performing an audit for a period of five (5) years from the date final payment is made under this Agreement, or such later date as specified in Subsection e hereof.

e. Consultant further agrees that the State Library, the Department of General Services, the State Auditor, or their designated representatives shall have the right to review, audit, inspect and copy any records and supporting documentation pertaining to the performance of this Agreement. Consultant agrees to maintain such records for possible audit for a minimum of five (5) years after the final payment made under this Agreement, or State Library Grant term end date, whichever is later, unless a longer period of records retention is stipulated, or until completion of any action and resolution of all issues which may arise as a result of any litigation, dispute, or audit, whichever is later. Consultant agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records

Section 18. CONFIDENTIALITY; OWNERSHIP OF WORK

a. Any and all documents and information obtained from the City or prepared by Consultant for the City shall be kept strictly confidential unless otherwise provided by applicable law. All City data, documents and information shall be returned to the City upon termination or expiration of this Agreement.

b. Any drawings, specifications, reports, records, documents, or other materials prepared by Consultant in the performance of services under this Agreement shall not be released publicly without the prior written approval of City's Project Manager or as required by applicable law.

c. Consultant shall not disclose to any other entity or person any information regarding the activities of the City, except with the prior written approval of City's Project Manager or as required by applicable law.

d. All original documents, reports, designs, computer files and all other materials prepared by Consultant in the course of performing the services pursuant to this Agreement, whether completed or in progress, are the property of the City and shall be surrendered to the City upon the completion of Consultant's services or when requested by City's Project Manager. Such materials may be used, reused or otherwise disposed of by the City without the permission of Consultant.

e. Consultant's covenants under this Section 18 shall survive the termination of this Agreement.

Section 19. MODIFICATIONS AND AMENDMENTS; EXTRA SERVICES

a. This Agreement may be modified or amended only by a written instrument signed by both Parties.

b. During the Initial Term of this Agreement, or during any extensions or option periods if applicable, the City may request that the Consultant perform Extra Services. As used herein, "Extra Services" means any services, which are determined by the City to be necessary for the proper completion of Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for the new Library and Green Tree Golf Course Clubhouse **,** but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. A written instrument signed by both Parties shall be required to authorize performance of and payment for Extra Services.

Section 20. NOTICES

a. Any notice to be provided pursuant to this Agreement shall be in writing, and all such notices shall be delivered by personal service or by deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, and addressed to the Parties as follows:

To the City:	Donna Meester, Director of Community Services Community Services City of Victorville 14343 Civic Drive Victorville, CA 92392
To Consultant:	Parker Braverman, President J.K. Miklin, Inc., dba Yamada Enterprises 16552 Burke Lane Huntington Beach, CA 92647

b. Notices, payments, and other documents shall be deemed delivered upon receipt by personal service or as of the second (2nd) day after deposit in the United States mail.

c. Either Party may change its address by giving notice in writing to the other Party at the address listed above, and thereafter notices shall be addressed and transmitted to such new address.

Section 21. TERMINATION OR SUSPENSION

a. This Agreement may be terminated or suspended without cause by either Party at any time, provided that the Party initiating the termination provides the other Party at least thirty (30) days advance written notice of such termination or suspension. In the event of such termination, the City shall only be liable for payment under the payment provisions of this Agreement for satisfactory services rendered or supplies actually furnished prior to the effective date of termination.

b. This Agreement may be terminated or suspended with cause by either Party at any time, provided that the Party initiating termination or suspension provides the other Party at least ten (10) days advance written notice of such termination or suspension. In the event of such termination, the City shall only be liable for payment under the payment provisions of this Agreement for satisfactory services rendered or supplies actually furnished prior to the effective date of termination.

Section 22. TIME OF THE ESSENCE

Time is of the essence in the performance of this Agreement.

Section 23. INDEMNIFICATION

a. Except as set forth in Subsection b of this Section 23, and to the fullest extent permitted by law, Consultant shall immediately defend, indemnify, and hold harmless the City, its officers, employees, representatives, and agents (the "City Indemnitees"), from and against those actions, suits, proceedings, claims, demands, losses, costs, and expenses, including legal costs and reasonable attorneys' fees, for any personal injuries, deaths, or property damage, including property owned by the City (collectively "Claims") which may arise out of Consultant's negligence or willful misconduct in the performance of the services described in this Agreement, unless such Claims are proven to be caused by the negligence or willful misconduct of the City Indemnitees.

b. The provisions of this Subsection b apply only in the event that Consultant is a design professional within the meaning of California Civil Code section 2782.8 ("Design Professional"). The term Design Professional, as defined in said section, is limited to licensed architects, licensed landscape architects, registered professional engineers, professional land surveyors, and the business entities that offer such services in accordance with the applicable provisions of the California Business and Professions Code.

(1) Notwithstanding the provisions of Subsection a above, to the extent that the services to be provided under this Agreement are those of a Design Professional, Consultant's duty to indemnify, hold harmless, and defend the City Indemnitees shall be limited to the extent that any Claims arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, its officers, agents, employees or subconsultants in the performance of the services described in this Agreement.

(2) In no event shall the costs of defense charged to Consultant exceed the Consultant's proportionate percentage of fault, except as otherwise set forth in said Civil Code section 2782.8, the provisions of which are incorporated into this Agreement by this reference. Nothing in this Subsection b shall be construed to require Consultant to provide indemnification for Claims caused by the active negligence or willful misconduct of the City Indemnitees.

c. The City does not and shall not waive any rights that it may have against Consultant under this Section, because of the acceptance by the City, or the deposit with the City, of any insurance policy or certificate required pursuant to this Agreement. The hold harmless and indemnification provisions of this Section 23 shall apply regardless of whether said insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost, or expense described herein.

d. The obligation to indemnify and defend, as set forth in this Section 23, is binding on the successors, assigns, or heirs of Consultant and shall survive the expiration or any early termination of this Agreement.

Section 24. ENTIRE AGREEMENT

a. This Agreement supersedes any and all prior or contemporaneous Agreements, either oral or written, between the City and Consultant with respect to the subject matter of this Agreement.

b. This Agreement contains all of the covenants and Agreements between the Parties with respect to the subject matter of this Agreement, and each Party to this Agreement acknowledges that no representations, inducements, promises, or Agreements have been made by or on behalf of any Party, except those covenants and agreements in this Agreement.

c. No Agreement, statement, or promise with respect to the subject matter of this Agreement, which is not contained in this Agreement, or in a valid modification or amendment to this Agreement, shall be valid or binding on either Party.

Section 25. AMBIGUITIES

This Agreement is in all respects intended by each Party hereto to be deemed and construed to have been jointly prepared by the Parties and the Parties hereby expressly agree that any uncertainty or ambiguity existing herein shall not be interpreted against either of them. Except as expressly limited by this paragraph, or as specified elsewhere in this Agreement, all of the applicable rules of interpretation of contract shall govern the interpretation of any uncertainty or ambiguity of this Agreement.

Section 26. NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES

No officer or employee of the City shall be personally liable to Consultant, or any successor in interest, in the event of any default or breach by the City or for any amount, which may become due to Consultant or to its successor(s), or for any breach of any obligation of the terms of this Agreement.

Section 27. REVIEW BY ATTORNEYS

Each Party hereto has had its attorney(s) review this Agreement and all related documents. Each Party hereto has consulted with its attorney(s) and has negotiated the terms of this Agreement based on such consultation.

Section 28. WAIVER

a. No waiver shall be binding unless executed in writing by the Party making the waiver.

b. No waiver of any provision of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether similar, nor shall any such waiver constitute a continuing or subsequent waiver of the same provision.

c. Failure of either Party to enforce any provision of this Agreement shall not constitute a waiver of the right to compel enforcement of such provision or any of the remaining provisions of this Agreement.

Section 29. ASSIGNMENT

Neither this Agreement, nor the rights and duties of the Parties hereunder, shall be assigned by either Party without prior written consent of the other Party.

Section 30. CARE OF WORK

The performance of services by Consultant or the payment of money by the City shall not relieve Consultant from any obligation to correct any incomplete, inaccurate, or defective work at no further cost to the City, when such incomplete, inaccurate, or defective work is due to the negligence of Consultant. Consultant shall adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work and the equipment, materials, papers, documents, plans, studies, and/or other components thereof to prevent losses or damages, and shall be responsible for all such damages, to persons or property, until acceptance of the work by the City, except such losses or damages as may be caused by City's own negligence.

Section 31. CAPTIONS AND HEADINGS

The captions and headings contained in this Agreement are provided for identification purposes only and shall not be interpreted to limit or define the content of the provisions described under the respective caption or heading.

Section 32. SUCCESSORS, HEIRS, AND ASSIGNS

Except as otherwise expressly provided herein, this Agreement shall be binding upon the successors, endorsees, assigns, heirs, and personal representatives of each of the Parties to this Agreement and, likewise, shall inure to the benefit of the successors, endorsees, assigns, heirs, and personal representatives of each of the Parties.

Section 33. GENDER ; SINGULAR AND PLURAL

In this Agreement, unless the context clearly requires otherwise, the masculine, feminine and neuter genders and the singular and the plural shall include one another.

Section 34. SEVERABILITY

If any one or more of the sentences, clauses, paragraphs, or sections contained herein is declared invalid, void, or unenforceable by a court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement and shall not affect, impair, or invalidate any of the remaining sentences, clauses, paragraphs, or sections contained herein.

Section 35. GOVERNING LAW

The validity of this Agreement and any of its terms or provisions, as well as the rights and duties of the Parties under this Agreement, shall be construed pursuant to and in accordance with California law.

Section 36. **DEFAULT**

a. Failure or delay by any Party to this Agreement to perform any material term or provision of this Agreement shall constitute a default under this Agreement; provided however, that if the Party who is otherwise claimed to be in default by the other Party commences to cure, correct, or remedy the alleged default within fifteen (15) days after receipt of written notice specifying such default and shall diligently complete such cure, correction, or remedy, such Party shall not be deemed to be in default hereunder.

b. The Party claiming that a default has occurred shall give written notice of default to the Party in default, specifying the alleged default. Delay in giving such notice shall not constitute a waiver of any default nor shall it change the time of default; provided, however, the injured Party shall have no right to exercise any remedy for a default hereunder without delivering the written default notice, as specified herein.

c. Any failure or delay by a Party in asserting any of its rights or remedies as to any default shall not operate as a waiver of any default or of any rights or remedies associated with a default.

d. In the event that a default by any Party to this Agreement may remain uncured for more than fifteen (15) days following written notice, as provided above, the injured Party shall be entitled to seek any appropriate remedy, including termination or damages, by initiating legal proceedings.

Section 37. **CUMULATIVE REMEDIES**

Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the Parties are cumulative and the exercise by either Party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default of any other default by the other Party.

Section 38. **VENUE**

All proceedings involving disputes over the terms, provisions, covenants, or conditions contained in this Agreement and all proceedings involving any enforcement action related to this Agreement shall be initiated and conducted in the applicable court or forum in San Bernardino County, California.

Section 39. **ATTORNEYS' FEES**

In the event any action, suit, or proceeding is brought for the enforcement of, or the declaration of any right or obligation pursuant to this Agreement, or as a result of any alleged breach of any provision of this Agreement, the prevailing Party in such suit or proceeding shall be entitled to recover its costs and expenses, including reasonable attorneys' fees, from the losing Party, and any judgment or decree rendered in such a proceeding shall include an award thereof.

Section 40. **EFFECTIVENESS OF AGREEMENT**

This Agreement shall not be binding upon the City, until it has been signed by the authorized representative(s) of Consultant, approved as to form by the City Attorney, reviewed by the City's Risk Manager, and executed by the authorized City personnel or the Mayor. This Agreement shall be considered effective as of the date it is fully executed.

Section 41. REPRESENTATIONS OF PARTIES AND PERSONS EXECUTING AGREEMENT

a. Each of the Parties to this Agreement hereby represents that all necessary and appropriate actions of their governing bodies have been taken to make this Agreement a binding obligation of each of the Parties hereto.

b. The persons executing this Agreement warrant that they are duly authorized to execute this Agreement on behalf of and bind the Parties each purports to represent.

Section 42. COUNTERPARTS

This Agreement may be executed by the Parties in counterparts, and when executed by each of the Parties, each counterpart shall be deemed to be a part of this Agreement.

Section 43. CARB COMPLIANCE OBLIGATIONS

a. CARB Regulations. Contractor is aware of the California Air Resources Board ("CARB") regulations mandating various emission reduction requirements. Consultant agrees to comply with all applicable CARB regulations (Title 13, Division 3 of the California Code of Regulations ("CCR")) prior to commencing any work hereunder and maintain compliance throughout the duration of this Agreement.

1. Vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 8,500 lbs. and light-duty package delivery vehicles operated in California may be subject to CARB's Advanced Clean Fleets regulations. Such vehicles may therefore be subject to requirements to reduce emissions of air pollutants. For more information, please visit the CARB Advanced Clean Fleets (ACF) webpage at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets.

2. Effective January 1, 2024, CARB implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR Section 2449 *et seq.*, the "Off-Road Regulation") which apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California (including any vehicles or equipment that is rented or leased). The Off-Road Regulation is available at: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf.

b. Contractor must comply with all CARB regulations and requirements, including without limitation, all applicable sections of the Off-Road Regulation (as codified in 13 CCR Section 2449 *et seq.*) throughout the term of the Project and this Agreement. Contractor shall be solely liable for all costs associated with complying with the regulations, as well as for any and all penalties, fines, damages, or costs associated with violations or failures to comply with the regulations. Contractor shall defend, indemnify, and hold harmless the City of Victorville, its elected and appointed officials, officers, agents, and employees from and against any and all claims, liabilities, costs, penalties, interest or other damages arising out of Contractor's failure or alleged failure to comply with CARB regulations.

[**END OF THIS PAGE**]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of the dates written below.

CITY OF VICTORVILLE

By:_____
Elizabeth Becerra, Mayor

Date:_____

J.K. MIKLIN, INC. DBA YAMADA ENTERPRISES

By:_____
Parker Braverman, President

Date:_____

ATTEST

By: _____
Jennifer Thompson, City Clerk

Date: _____

RISK MANAGEMENT

By: _____
Sandra Bostick, Risk Manager

Date: _____

APPROVED AS TO FORM

By: _____
Andre de Bortnowsky, City Attorney

Date: _____

<u>EXHIBIT A</u>

SCOPE OF SERVICES

City agrees to engage Consultant and Consultant agrees to furnish all necessary labor, tools, materials, and equipment for and to do the Work for the Project. The Work shall be performed in accordance with: (i) the Plans and Specifications (and as generally described in the Request for Proposal, JM25-025 for the Project, portions of which are attached hereto for ease of reference as **Exhibit "A"**, and the entirety of which is currently on file in office of the City Clerk; and (ii) the prices set forth in Consultant's Bid Proposal (attached as **Exhibit "B"**).

SCOPE OF SERVICES

The Consultant shall be responsible for specifying, procuring, delivering, and installing furniture, fixtures, and equipment that aligns with the approved design and design intent of the City of Victorville and the designer of the Victorville City Library and Green Tree Golf Course Clubhouse. The Consultant will be responsible for meeting with representatives of the City's team as well as the original architect to select furnishings and equipment that are in line with the design and meet the City's needs and expectations for operation of the library and golf operation. Once all furnishings and equipment have been agreed upon by City staff and the design team, the Consultant will then be responsible for coordinating procurement, delivery, assembly, and installation of selected products. Because the library is in the process of being constructed, this project will require selected vendor to coordinate with the general construction Consultant with the goal of providing a turnkey library and golf clubhouse at the termination of the construction period, which is scheduled to be complete in the Fall of 2025.

CITY OF VICTORVILLE

REQUEST FOR PROPOSALS (RFP)

PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

PROJECT# JM25-025

SUBMITTAL DUE DATE & TIME:

SEPTEMBER 30, 2024
BY 2:00 P.M., PST

CITY OF VICTORVILLE
RFP# JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

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CITY OF VICTORVILLE
RFP# JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL NEW FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE
SECTION I

NOTICE INVITING PROPOSALS

A. **INTRODUCTION**: The City is seeking to solicit a proposal from a qualified firm to specify, furnish, deliver, and install furniture, fixtures, and equipment (FF&E) at the City's new library and Green Tree Golf Course Clubhouse located at 14144 Green Tree Boulevard in Victorville, CA. FF&E should align with the approved design and the intent of the design of the new City library and golf course clubhouse.

B. **MANDATORY PRE-PROPOSAL MEETING:** A MANDATORY pre-proposal meeting will be held for all prospective Proposers, on **Thursday, September 12, 2024 at 10:00 a.m., PST** via ZOOM. This meeting has been scheduled to answer any relevant questions, indicate specific details required, and permit perspective Proposers an opportunity to get clarifications on scope of work and/or expectations. A proposal received from a firm who is not represented by a duly authorized agent at the ZOOM pre-proposal meeting shall be considered non-responsive and rejected from further contract award consideration.

ZOOM Meeting Link

Topic: Mandatory Pre-Proposal Meeting for City of Victorville RFP
Time: Sep 12, 2024 10:00 AM Pacific Time (US and Canada)

Join Zoom Meeting
https://victorvilleca-gov.zoom.us/j/88122157337?pwd=LbyERDEJtZunFyQ7S26zp7IUVaPrLQ.1

Meeting ID: 881 2215 7337
Passcode: 760865

One tap mobile
+16694449171,,88122157337#,,,,*760865# US
+17193594580,,88122157337#,,,,*760865# US

C. **SELECTION CRITERIA:** Selection among the proposals received will be based upon the following:

1.	Alignment of Preliminary Proposal with Original Design Intent	(40%)
2.	Experience of Contractor on previous projects of similar scope	(30%)
3.	Quality/Durability/Warranty of selected furniture, fixtures and equipment	(20%)
4.	Bid Amount	(10%)

D. **SUBMITTAL LOCATION, CLOSING DATE, AND TIME**: Proposals will not be received after the "closing" date and time indicated. Faxed or emailed proposals will not be accepted.

Submittal Closing: **September 30, 2024, at 2:00 p.m. PST**

Location: City of Victorville – City Hall
14343 Civic Drive, Victorville, California 92392
Attn: Purchasing/John Mendiola

E. **CONTRACT DOCUMENTS**: Complete RFP package and applicable addenda are available at the City of Victorville's website at https://www.victorvilleca.gov/government/city-departments/administrative-services/finance/purchasing/bids. RFP may also be obtained from the City of Victorville, Finance Department by calling John Mendiola at (760) 955-5079 or via email at jmendiola@victorvilleca.gov.

F. **IN-USE OFF-ROAD DIESEL-FUELED FLEET CERTIFICATE OF REPORTED COMPLIANCE:** Valid CARB Certificates of Reported Compliance as described in California Code of Regulations, Title 13, Section 2449(n) for fleets of vehicles subject to 13 CCR section 2449 are required for this Project.

G. **INQUIRIES:** To ensure fairness and avoid misunderstandings, any prospective Proposer desiring an explanation, interpretation, or clarification of the provisions of this RFP must request it in writing, no later than noon on September 23, 2024 before the submission closing date, to allow a reply to each prospective Proposers. Proposers must submit all requests in writing to the individual identified below. Verbal explanations or instructions given during this solicitation will not be binding. Any information given to the prospective Proposer will be furnished promptly as addenda to this solicitation if that information is necessary in submitting proposals, or if the lack of it would be prejudicial to other prospective Proposers. Inquiries regarding this solicitation should be directed to:

John Mendiola, Purchasing Manager
- Email: jmendiola@victorvilleca.gov
- Phone#: (760) 955-5079

Dated: August 28, 2024 _____
Jennifer Thompson, City Clerk

CITY OF VICTORVILLE
RFP# JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL NEW FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

SECTION II
CONDITIONS OF PROPOSAL

NOTE: IT IS THE OFFERER'S RESPONSIBILITY TO EXAMINE THE "REQUEST FOR PROPOSAL" SOLICITATION IN ITS ENTIRETY PRIOR TO SUBMITTING A PROPOSAL.

1. **PROPOSER RESPONSIBILITIES:** It is the responsibility of each Proposer to examine this "Request for Proposals" solicitation in its entirety prior to submitting a proposal. **ALL TERMS AND CONDITIONS SPECIFIED IN THIS SOLICITATION, INCLUDING THOSE SPECIFIED IN ALL SECTIONS APPLY TO ANY PROPOSAL(S) SUBMITTED.**

2. **MANDATORY PRE-PROPOSAL MEETING:** **A MANDATORY** pre-proposal meeting has been scheduled for all prospective proposers. The meeting will be held on **Thursday, September 12, 2024 via ZOOM at 10:00am, PST**. Prospective proposers are encouraged to address questions, problems, and other issues regarding this project.

   ZOOM Meeting Link
   Topic: Mandatory Pre-Proposal Meeting for City of Victorville RFP for Plan, Furnish, Deliver, and Install Furniture, Fixtures, and Equipment (FF&E) for New Library and Green Tree Golf Course Clubhouse, Project JM25-025.
   Time: Sep 12, 2024 10:00 AM, PST

   Join Zoom Meeting
   https://victorvilleca-gov.zoom.us/j/88122157337?pwd=LbyERDEJtZunFyQ7S26zp7IUVaPrLQ.1

   Meeting ID: 881 2215 7337
   Passcode: 760865

   One tap mobile
   +16694449171,,88122157337#,,,,*760865# US
   +17193594580,,88122157337#,,,,*760865# US

   A proposal received from a Proposer who is not represented by a duly authorized agent at the mandatory pre-proposal ZOOM meeting shall be considered non-responsive and rejected from further contract award consideration.

3. **WITHDRAWAL OF PROPOSAL BEFORE CLOSING**: Any Proposer may request the withdrawal of their submitted proposal, by written request, at any time **prior** to the scheduled closing date and time. Upon receiving the written request to withdraw any proposal, the City will consider the Proposer's proposal null and void and return the proposal to the Proposer unopened. Withdrawal of Proposer's proposal will not prejudice Proposer's re-submittal for this or any future proposal(s).

4. **AWARD OF CONTRACT:** The City reserves the right to accept or reject, any and all proposals and to award a contract to the Proposer who best meets its requirements. Relevant factors which shall be considered in evaluating the bids are: qualifications and performance history, demonstrated experience with FF&E projects that coordinate with an architect's design intent of the facility along with the quality and durability of the furniture and fixtures.

a. The City further reserves the right to award the contract to other than the lowest Proposer if such action is deemed to be in the best interest of the City of Victorville.

The award of the contract, if awarded, will be made within sixty (60) days after opening of the Proposals. The Proposer's signature on the Cost Proposal form shall constitute a commitment on the part of the proposer to furnish the services in a professional, competent, and workmanlike manner as set forth in the Proposal Form, the Terms and Conditions, and the Request for Proposal. The Proposer to whom the contract is awarded shall be notified upon approval of the contract by the Purchasing Division of the Finance Department. The Proposal Form, the Terms and Conditions, the Request for Proposal, and the Scope of Services, together with any plans and/or attachments, shall all be considered as part of the contract between the City and the Proposer to whom a Purchase Order is issued.

5. **NON-COMMITMENT OF THE CITY:** This Request for Proposal does not commit the City to award a contract, to pay any costs incurred in the preparation of a proposal for this request, or to procure or contract these services. All products used or developed in the execution of any contract resulting from this Request for Proposal will remain in the public domain at the completion of the contract.

6. **PROPOSAL INCLUSIONS**: The "Request for Proposal" documents shall be returned in their entirety, with **ALL** applicable portions fully completed by the Proposer. All Proposers are encouraged to review and confirm that their proposal includes and specifically addresses all of the proposal requirements prior to submitting as outlined elsewhere in this document.

7. **PREVAILING WAGES:** California Labor Code Sections 1720 *et seq.* and 1779 *et seq.*, as well as California Code of Regulations ("CCR"), Title 8, Section 16000 *et seq.* ("Prevailing Wage Laws"), require the payment of prevailing wage rates and the performance of other requirements for services or work meeting the definition of "public works". Section 1771 of the California Labor Code states that prevailing wages must be paid for contracts "let for maintenance work" and 8 CCR Section 16001 further defines maintenance as including "routine, recurring and usual work for the preservation, protection and keeping of any publicly owned or publicly operated facility (plant, building, structure, ground facility, utility system or any real property) for its intended purposes in a safe and continually usable condition for which it has been designed, improved, constructed, altered or repaired" and "landscape maintenance."

Pursuant to California Labor Code Section 1773, the City has obtained from the Director of the Department of Industrial Relations ("DIR") the general prevailing rate of per diem wages and the general prevailing wage rate for holiday and overtime work applicable for each craft, classification, or type of worker in San Bernardino County, California, where the Agreement is to be performed. Copies of these prevailing rate of per diem wages are on file at the City of Victorville Finance Department/Purchasing Division and shall be made available for review to any interested party on request. Copies of these prevailing rate per diem wages are also available from the State of California via the internet at http://www.dir.ca.gov/DLSR/PWD.

With respect to any work or services listed in this RFP, including any subcontracted work or services, that constitutes a public works construction project of more than $25,000, or that constitutes public works maintenance (alteration, demolition, repair, or maintenance work) of more than $15,000, or otherwise meets the definition of "public works" as set forth in the Prevailing Wage Laws, Proposers must fully comply with said Prevailing Wage Laws, including without limitation; payment of the correct prevailing wage; compliance with the maintenance, inspection, and submission of payroll records; posting of prevailing wage rates at the work/job site; and employment of apprentices. Such "public works" are also subject to prevailing wage rate compliance monitoring and enforcement by the DIR.

Further, the Proposer and any subcontractor(s) utilized to perform work or services meeting the definition of public works must be registered with the DIR pursuant to Labor Code Sections 1725.5 and 1770 *et*

seq., prior to submittal of any proposal. Proof of such required registration for both the Proposer and any subcontractor must be submitted with the proposal.

California State Prevailing Wage information is available through the DIR website at the following links:
DIR FAQ: www.dir.ca.gov/OPRL/FAQ/PrevailingWage.html
DIR Registration: https://www.dir.ca.gov/Public-Works/Contractor-Registration.html

(See also Section 5 of the attached Sample Agreement for detailed Prevailing Wage requirements).

8. **INSURANCE**

COMMERCIAL GENERAL AND AUTOMOBILE LIABILITY INSURANCE

a. Proposer shall procure and maintain at its own expense, during the Initial Term of this Agreement (and during the Option Period, if applicable)**,** Commercial General Liability Insurance, of not less than One Million Dollars ($1,000,000) per occurrence, and Two Million Dollars ($2,000,000) in the aggregate, for bodily injury, personal injury, death, loss, or damage resulting from the wrongful or negligent acts by Proposer or its officers, employees, servants, volunteers, agents, independent contractors and subcontractors/subconsultants.

b. Proposer shall further procure and maintain, at its own expense, during the Initial Term of this Agreement, (and during the Option Period, if applicable)**,** Commercial Vehicle Liability Insurance covering personal injury and property damage, of not less than One Million Dollars ($1,000,000) combined single limit, covering any vehicle utilized by Proposer or its officers, employees, servants, volunteers, agents, independent contractors, and subcontractors/subconsultants in performing the services required by this Agreement.

WORKERS' COMPENSATION INSURANCE

a. Proposer shall procure and maintain at its own expense, during the Initial Term of this Agreement (and during the Option Period, if applicable), Workers' Compensation Insurance, providing coverage as required by the California State Workers' Compensation Law.

b. If any class of employees employed by the Proposer pursuant to this Agreement is not protected by the California State Workers' Compensation Law, Proposer shall provide adequate insurance for the protection of such employees to the satisfaction of the City.

ADDITIONAL INSURANCE REQUIREMENTS

With respect to the policies of insurance set forth above, compliance with the following is also required:

a. Additional Insureds. Notwithstanding any inconsistent statement in any required insurance policies or any subsequent endorsements attached thereto, all insurance policies, except for the Workers' Compensation and Professional Liability, shall be endorsed, with coverage at least as broad as ISO form CG 20 10, to name the City and its officers, employees, servants, volunteers, agents and independent contractors, including, without limitation, the City Attorney, as Additional Insureds.

b. Waiver of Subrogation. Proposer shall require the carriers of all required insurance policies, with exception of the Professional Liability policy, to waive all rights of subrogation against the City and its officers, employees, servants, volunteers, agents, independent contractors, and subcontractors. Each policy of insurance shall be endorsed to reflect such waiver.

PROOF OF INSURANCE COVERAGE; REQUIRED ENDORSEMENTS

a. Proposer must secure all required policies of insurance from a good and responsible company or companies authorized to transact insurance business in the State of California, with an AM Best's rating of not less than A:VII.

b. Proposer shall furnish to the City Clerk certificates of insurance evidencing the required coverages and policy endorsements at least ten (10) business day prior to the commencement of any services to be performed under this Agreement.

Required Endorsements

c. The policies and certificates of insurance shall be endorsed to provide that in the event of cancellation or amendment of any required insurance policy for any reason whatsoever, the City shall be notified by mail, postage prepaid, not less than thirty (30) days before the cancellation or amendment is effective. In the case of cancellation for non-payment, ten (10) days advance written notice shall be given.

e. The Commercial General Liability and Vehicle Liability policies shall be endorsed to contain the following provision: "For any claims related to this Agreement, Proposer's coverage shall be primary with respect to the City. Any insurance maintained by the City shall be in excess of Proposer's insurance and shall not contribute with it."

Proposer shall review the sample agreement, attached hereto, for additional required insurance criteria.

9. **PROPOSAL LABELING:** The proposal shall be submitted in a sealed envelope with all original pages intact. Proposal envelopes must be plainly marked and submitted as follows: **"JM25-025 SEALED PROPOSAL FOR: PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES AND EQUIPMENT (FF&E) FOR NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE**" and **Section III - Cost Proposal (Pages 20-21)** shall be in a separate envelope clearly marked "**COST PROPOSAL**"

10. **INTERPRETATION OF DOCUMENTS:** During the proposal solicitation period, should a Proposer find discrepancies or omissions in any part of the RFP, or should the Proposer be in doubt as to their interpretation, the Proposer shall immediately notify the contact indicated in Section I-D, entitled "Inquiries". Should it be found necessary, an addendum will be sent to all Proposers. Any addenda issued prior to the scheduled proposal closing date and time, shall form a part of this solicitation and shall become a part of the submitted proposal.

11. **PUBLIC RECORD:** Be advised that **all** information contained in submitted proposals shall become a matter of public record and subject to public disclosure pursuant to a valid request made under the California Public Records Act, *Gov. Code §§ 7920.000 et seq.* (the "**CPRA**"), upon award of a contract. The City will not disclose any part of any proposal before it announces a recommendation for selection on the grounds that there is a substantial public interest in not disclosing proposals during the evaluation process. After the announcement of a recommended award, all proposals will be subject to public disclosure. Should Proposer believe that submitted information is exempt from disclosure under the CPRA, Proposer must identify all such material by conspicuously marking the same "**confidential**" or "**proprietary**". In addition, Proposer shall identify the specific exemption of the CPRA justifying nondisclosure of the information. In the event Proposer requests notification from the City of receipt of a CPRA request seeking such information, the City will provide notification of such a request to Proposer as soon as is reasonably practicable. The City will produce or exempt material in accordance with the CPRA in its sole and absolute discretion. In the event Proposer believes such information should be withheld or exempted, Proposer may bring appropriate legal action, including, without limitation, a reverse Public Records Act suit, to protect its alleged interests.

12. **CONTRACT EXECUTION:** The successful Proposer shall execute a contract (Agreement) with the City for the services provided until such time the scope of services is completed and accepted by the City. An extension for another year may be granted (if applicable). A draft sample Agreement is provided as **ATTACHMENT A** at the end of this RFP. The City reserves the right to revise and/or restructure the proposed Agreement, including its service-related terms, conditions, requirements, specifications, or minimum performance standards prior to execution.

13. **ACCEPTANCE OF PAYMENT:** Proposer's invoice(s) shall include reference to the Purchase Order number (if any) issued for the services, and be accompanied by detailed supporting documentation, to include information on all services rendered. City shall pay the Proposer's properly executed invoice, subject to approval by the Building Official or his designee, within thirty (30) days following receipt of the invoice. Payment will be withheld for any services which do not meet or exceed City's requirements or have proven unacceptable until such services are corrected, accepted by the City, and a properly executed invoice is resubmitted.

14. **FEDERAL STATE AND LOCAL LAWS:** Proposer shall comply with all applicable federal, state, local laws, rules, and regulations.

15. **DRUG-FREE WORKPLACE REQUIREMENTS:** Proposer shall comply with the requirements of the Drug-Free Workplace Act of 1990 (Government Code Sections 8350 *et seq*.) and Government-wide Requirements for Drug-Free Workplace (31 CFR Part 20).

16. **AMERICANS WITH DISABILITIES:** Proposer shall comply with the Americans with Disabilities Act (ADA) of 1990, as amended (42 U.S.C. 12101 *et seq*.) which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

17. **PROHIBITED CONFLICT OF INTEREST**: No member, officer, or employee of the City of Victorville engaged in the selection, award, or administration of any contract awarded pursuant to this RFP shall have any prohibited conflict of interest, whether real or apparent, in said contract or the proceeds thereof.

    By submitting a proposal, proposer certifies that: (1) neither it, nor any of its officials or employees, presently has or shall acquire, any financial or business interest that would conflict with the performance of services under any contract that might be awarded by the City hereunder; and (2) it does not know of any fact which would constitute a violation of any applicable conflict of interest law, including without limitation, the Political Reform Act *(Cal. Gov. Code section 81000 et seq.)* or Section 1090 *et seq.* of the California Government Code, with respect to entering into any contract awarded under this RFP.

    Proposer agrees to cooperate fully with the City and to provide any necessary and appropriate information requested by the City concerning potential conflicts of interest or prohibitions concerning the award of any contract hereunder.

    If Proposer meets the definition of a "Consultant" as set forth in the Fair Political Practices Commission (FPPC) regulations *(2 CCR Section 18700.3)*, Proposer will disclose its financial interests as required by the City's Conflict of Interest Code and the Political Reform Act, as such may be amended from time to time, by completing and filing a FPPC Form 700 – Statement of Economic Interests with the Victorville City Clerk's office pursuant to written instructions provided by the City Clerk.

18. **HIRING OF UNDOCUMENTED IMMIGRANTS PROHIBITED:** Proposer shall not hire or employ any person to perform work within the City or allow any person to perform work required under this

Agreement unless such person is properly documented and legally entitled to be employed within the United States.

19. **CALIFORNIA CONTRACTORS LICENSE AND CITY BUSINESS LICENSE:** The successful Proposer shall have a valid California Contractor's License **Class B, or C-6, or D-34** at the time of the award of this contract, to complete the work described. Proposer and any of its sub-Proposers or subcontractors shall also obtain a ***City of Victorville business license*** prior to commencing work for the City. The Proposer and sub-Proposers or subcontractors shall obtain all the required permits and licenses prior to commencing work and shall submit the work in progress to periodic inspections by the appropriate Inspector of the City and shall honor all correction notices issued by same. All contacts, regarding inspections, shall be made to the appropriate department within the City.

20. **TERMINATION FOR CONVENIENCE:** The City may, by written notice, terminate the contract with the Proposer in whole or in part, when deemed in the City's interest. Upon termination, the City shall only be liable for payment for services rendered or supplies furnished prior to the effective date of termination.

21. **TERMINATION FOR DEFAULT:** In the event the City or Proposer fail to perform their respective obligations under the contract, the parties will have the ability to terminate the contract in accordance with the notice and cure provisions set forth in the executed agreement. The contemplated applicable procedures and provisions are set forth in Sections 21 and 43 of the Sample Professional Management Services Agreement (RFP **ATTACHMENT A**).

22. **INDEMNIFICATION:**

a. Except as set forth in Subsection b of this Section 25, and to the fullest extent permitted by law, Proposer shall immediately defend, indemnify, and hold harmless the City, its officers, employees, representatives, and agents (the "City Indemnitees"), from and against those actions, suits, proceedings, claims, demands, losses, costs, and expenses, including legal costs and reasonable attorneys' fees, for any personal injuries, deaths, or property damage, including property owned by the City (collectively "Claims") which may arise out of Proposer's negligence or willful misconduct in the performance of the services described in this Agreement, unless such Claims are proven to be caused by the negligence or willful misconduct of the City Indemnitees.

b. The provisions of this Subsection b apply only in the event that Proposer is a design professional within the meaning of California Civil Code section 2782.8 ("Design Professional"). The term Design Professional, as defined in said section, is limited to licensed architects, licensed landscape architects, registered professional engineers, professional land surveyors, and the business entities that offer such services in accordance with the applicable provisions of the California Business and Professions Code.

(1) Notwithstanding the provisions of Subsection a above, to the extent that the services to be provided under this Agreement are those of a Design Professional, Proposer's duty to indemnify, hold harmless, and defend the City Indemnitees shall be limited to the extent that any Claims arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Proposer, its officers, agents, employees or sub Proposers in the performance of the services described in this Agreement.

(2) In no event shall the costs of defense charged to Proposer exceed the Proposer's proportionate percentage of fault, except as otherwise set forth in said Civil Code section 2782.8, the provisions of which are incorporated into this Agreement by this reference. Nothing in this Subsection b shall be construed to require Proposer to provide indemnification for Claims caused by the active negligence or willful misconduct of the City Indemnitees.

c. The City does not and shall not waive any rights that it may have against Proposer under this Section, because of the acceptance by the City, or the deposit with the City, of any insurance policy or certificate required pursuant to this Agreement. The hold harmless and indemnification provisions of this Section 25 shall apply regardless of whether said insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost, or expense described herein.

d. The obligation to indemnify and defend, as set forth in this Section 25, is binding on the successors, assigns, or heirs of Proposer and shall survive the expiration or any early termination of this Agreement.

23. **SAFETY, SANITARY, AND MEDICAL REQUIREMENTS:** The Propose and Proposer's employees, shall promptly and fully carry out the existing safety, sanitary, and medical requirements as prescribed by the Division of Industrial Safety and by County or State Health Departments to the end that proper work shall be done, and the safety and health of the employees and of the community may be conserved and safeguarded. In case such regulations and orders are not observed by the Proposer, they may be enforced by the Building Official, or his designee, at the Proposer's expense.

24. **RETENTION OF AND ACCESS TO RECORDS**: At all reasonable times during the term of this contract and for a minimum of three years following final settlement, the City of Victorville, and any designated representative shall have access to all records related to work performed under this contract and the awarded firm and all subcontractors shall make such records available for inspection, audit, copying excerpts and transcriptions.

25. **DISCLAIMERS AND RESERVATION OF RIGHTS**: Upon receipt, each Proposal becomes the sole property of the City and will not be returned to the Respondent. Each Respondent is solely responsible for the costs it incurs to prepare and submit its Proposal. The City reserves, in its sole discretion, the right to reject any and all Proposals, including the right to cancel or postpone the RFP or the Project at any time, or to decline to award the Agreement to any of the Respondents. The City reserves the right to waive any immaterial irregularities in a Proposal or submission of a Proposal. The City reserves the right to reject any Proposal that is determined to contain false, misleading, or materially incomplete information.

26. **INDEPENDENT CONTRACTOR STATUS OF PROPER'S FIRM**: The awarded firm is retained as an independent contractor only, for the sole purpose of rendering the services described in the scope of services and shall not be an employee of the City.

27. **OBSERVING LAWS AND ORDINANCES**: The awarded firm shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The awarded firm shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the City, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the awarded firm or its employees.

28. **EQUAL OPPORTUNITY**: During the performance of any contract awarded, the awarded firm shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment on the basis of a person's race, religion, creed, color, national origin, ancestry, age, physical or mental disability, medical condition, marital status, sex, sexual orientation, gender, gender identity, gender expression, genetic information, or military or veteran status.

29. **VEHICLE EMMISSION DISCLOSURE & COMPLIANCE REQUIREMENTS:** This Project is subject to the regulation(s) of the California Air Resources Board ("CARB") listed in the Section. In bidding this Project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all equipment and vehicle emission requirements under applicable law in its Bid.

Advanced Clean Fleets

Vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 8,500 lbs. and light-duty package delivery vehicles operated in California may be subject to the CARB Advanced Clean Fleets ("ACF") regulations. Such vehicles may therefore be subject to requirements to reduce emissions of air pollutants. For more information, please visit the CARB Advanced Clean Fleets (ACF) webpage at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets.

Each Bidder shall submit with its Bid a valid CARB certificate of reported compliance with ACF for its fleet and its TRUCRS ID (Fleet Identification Number). Bidders utilizing subcontractors shall further provide a valid certificate of reported compliance for each subcontractor listed on the List of Subcontractors Form and include the TRUCRS ID number for each subcontractor in the space provided on said form. Unless exempt, all Bidders and their respective subcontractors must be registered as ACF compliant fleets at the time of bid submittal.

In the event that a Bidder and/or its subcontractors are exempt from the ACF regulations, the Bidder must submit a signed statement attesting to the fact, and to the reason(s) why it is not subject to the High Priority and Federal Fleets Regulation (Title 13, Sections 2015 through 2015.6 of the California Code of Regulations ("CCR")) and the State and Local Government Fleets Regulation (Title 13, Sections 2013 through 2013.4 of the CCR). Each Bidder shall also submit signed statements from each of its subcontractors who are claiming exemption form the ACF regulations.

Failure to certify as a compliant fleet or provide an attestation to an exemption **may render the bid non-responsive**.

In-Use Off-Road Diesel-Fueled Fleets

Effective January 1, 2024, CARB implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Title 13 California Code of Regulations ("CCR") Section 2449 *et seq.*, the "Off-Road Regulation") which apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California (including any vehicles or equipment that is rented or leased). A copy of the Off-Road Regulation may be obtained by visiting: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf.

Bidders are required to comply with all CARB regulations and requirements, including without limitation, all applicable sections of the Off-Road Regulation (as codified 13 CCR Section 2449 *et seq.*) throughout the term of the Project.

The City of Victorville is a Public Works Awarding Body, as that term is defined in 13 CCR Section 2449(c)(46). Accordingly, Bidders must submit with their Bids, valid Certificates of Reported Compliance issued by CARB ("CRCs") for the Bidder's fleet, and for the fleets of any subcontractors listed on the List of Subcontractors Form. Bidders must also:

(1) Include the DOORS ID number for each subcontractor listed on the List of Subcontractors Form in the space provided; and

(2) Complete and submit the Fleet Compliance Certification Form. Failure to provide valid CRCs for the Bidder and all listed subcontractors, or failure to complete and submit the Fleet Compliance Certification Form **may render the Bid non-responsive.**

Contractor shall comply with and ensure that all its subcontractors comply with all applicable requirements of the CARB regulations in Title 13, Division 3, of the California Code of Regulations, including without limitation, all applicable provisions of Chapter 9, as such may be amended from time to time.

Throughout the Project, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor's and subcontractors' fleet(s), including without limitation, CRCs, fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep, or maintain pursuant to CARB regulations upon two (2) calendar days' notice from the City of Victorville.

Contractor shall be solely liable for any and all costs associated with complying with the regulations as well as for any and all penalties, fines, damages, or costs associated with any violations or failures to comply with the regulations. Contractor shall defend, indemnify, and hold harmless the City of Victorville, its elected and appointed officials, officers, agents, and employees form and against any claims, liabilities, costs, penalties, interest, or other damages arising out of any failure or alleged failure to comply with CARB regulations.

SCOPE OF WORK

CITY OF VICTORVILLE
RFP JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

BACKGROUND

Currently, the City is in the renovation stage of the Green Tree banquet facility converting it into the new library. Construction commenced in the spring of 2024 with an anticipated **Grand Opening of October 2025**. Concurrent with the library renovation and the 5,000 square feet addition, the golf lounge area will be redesigned (see Attachment "C" Golf Shop & Bar Lounge plans). The city is seeking to fully furnish the new library and the golf course clubhouse with new furniture, fixtures, and equipment to compliment the architect's design intent as shown in the attached architectural drawings as Attachment "B".

I. GENERAL INFORMATION

The City is seeking a qualified firm to specify, furnish, deliver, and install furniture, fixtures, and equipment (FF&E) at the City's new library and Green Tree Golf Course Clubhouse, currently under renovation. FF&E should align with the approved design and the intent of the design of the new City library and golf course clubhouse.

SCOPE OF WORK

The selected contractor will be responsible for specifying, procuring, delivering, and installing furniture, fixtures, and equipment that aligns with the approved design and design intent of the City of Victorville and the designer of the Victorville City Library and Green Tree Golf Course Clubhouse. This contractor will be responsible for meeting with representatives of the City's team as well as the original architect to select furnishings and equipment that are in line with the design and meet the City's needs and expectations for operation of the library and golf operation. Once all furnishings and equipment have been agreed upon by City staff and the design team, the selected contractor will then be responsible for coordinating procurement, delivery, assembly, and installation of selected products. Because the library is in the process of being constructed, this project will require selected vendor to coordinate with the general construction contractor with the goal of providing a turnkey library and golf clubhouse at the termination of the construction period, which is scheduled to be complete in the Fall of 2025.

SELECTION CRITERIA

Contractors responding to this Request for Proposal (RFP) are expected to provide a preliminary proposal based on the approved design of the architect, which will be included as part of the advertisement for the project. Preference will be given to the contractor who provides a preliminary proposal that is most in line with the design intent of the project's designer, TR Design Group, who completed the comprehensive design of the library and clubhouse. Criteria would look something like this:

1. Alignment of Preliminary Proposal with Original Design Intent (40%)
2. Experience of Contractor on previous projects of a similar scope (30%)
3. Quality and Durability of selected furniture, fixtures, and equipment (20%)
4. Bid Amount (10%)

PROPOSAL SUBMITTAL FORMAT

The firm is responsible for planning, furnishing, delivering, assembling, and installing all the furniture, fixtures, and equipment for the new library and golf course clubhouse.

1. **Executive Summary**
   - The Executive Summary will summarize and highlight the contents of the proposal including: Listing of all staff proposed to work on this project, including name, title, and experience.
   - Steps to collaborate with City staff and original architect design team in selecting furnishings and equipment meeting the City's needs for operation of the library and golf operation with inclusion of a timeline.
   - Working with prime construction contractor to meet the deadline to provide a turnkey library and golf clubhouse.

2. **Resume or Summary of Experience**

   The proposal must include a detailed summary of the experience of the firm (or individual, if applicable). Information to include: founding date (month and year) and brief history of firm; facility/office location, current number of employees (full-time and part-time); special equipment acquired for the work; firm's vision and mission statements, and key services offered. Emphasis should be placed on those areas of qualification which evidence the capability to effectively provide complete services for FF&E.

3. **Proposer's Qualifications and Performance History**

   Demonstrate Proposer's organization has the experience and background to perform the required services, including a minimum of five (5) years of experience within the past ten (10) years in the completion of FF&E projects for public library facilities.

4. **Quality and Workmanship Plan**

   Describe your firm's "proactive" Quality and Workmanship Plan that your firm will ensure a high level of workmanship performance in the assembly and installation of the FF&E emphasizing on Quality and Durability of the equipment and products provided.

5. **Subcontracting**

   Is your firm planning to subcontract portions of the work? Yes___ No___. If yes, indicate the name of the subcontractor(s) and the portion of the work that will be subcontracted in each case. Also, please indicate how subcontractors will be addressing #2-4.

EVALUATION PROCESS

Proposals will be evaluated according to best industry purchasing practices for Requests for Proposals. First, proposers must adhere to the proposal requirement and meet the mandatory minimum requirements of the RFP, General Provisions for Standard Form Contracts, and the Scope of Work Evaluation Criteria noted below. Proposer solutions will then be rated on a raw numeric scale based on proposer alignment of design intent capabilities, experience on previous projects with similar scope of work, and the proposed quality and durability of the FF&E. Raw scores will be converted to weighted-scores based on percentage value. Proposers will be rated according to the following criteria sets described below on the following pages:

Alignment of Preliminary Proposal with Original Design Intent	***(40%)***
Experience of Contractor on previous projects of a similar scope	***(30%)***
Quality and Durability of selected furniture, fixtures, and equipment	***(20%)***
Bid amount	***(10%)***

SELECTION PROCESS

The City's intent is to award a contract to a Contractor that it determines will provide the best overall services within a reasonable pricing structure. The City reserves the right to reject all proposals, or any proposal that is not responsive to the RFP. Proposals will be reviewed by a Selection Committee consisting of City staff and original architect team in accordance with the above Proposal Evaluation Criteria. The Selection Committee will also evaluate the overall completeness and quality of the proposal, quality of references, and any other factors the Selection Committee deems relevant.

The City reserves the right to request additional information about all Proposals that in City's opinion is necessary to assure that the Proposer's competence and experience are adequate to perform the tasks as described in the Scope of Services.

The City will act as the sole judge of the content of all proposals. After proposals have been evaluated, if deemed necessary by the Selection Committee, interviews and/or oral presentations will be conducted. Dates and times will be coordinated after the evaluation of responsive proposals is complete, and the highest-ranking firms are determined. The selected Organization shall then, enter into exclusive negotiations with the City to formalize the Scope of Services and Compensation.

If the City is unable to obtain a fair and reasonable price or cannot reach agreement regarding the terms for the Scope of Services, then the City will end negotiations with that Organization and begin negotiations with the next Organization which best meets the needs of the City, and so on until the City and a Proposer reach an agreement.

CITY OF VICTORVILLE
RFP JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

FORMS
SUBMISSION CERTIFICATION

I hereby submit to The City of Victorville the following bid proposal for work outlined in plans and specifications entitled "**PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE PROJECT JM25-025"**

All of the following documents (check below) are completed, fully executed, and included in my proposal as required in the RFP document:

_____ Submission Certification

_____ Proposal Sheet

_____ Proposer Identification

_____ Sub-Contractor

_____ Worker's Compensation

_____ Non-Collusion Declaration

_____ References

_____ Debarred Certification Acknowledgement

_____ Fleet Compliance Certification Form

My signature on this Submittal Certification is affirmation that all items listed above are fully completed and executed and are hereby submitted with the proposal as required. I understand that failure to complete and/or submit any of the required documents may be cause for rejection of my proposal.

_____
Business Name

_____
Authorized Signature Printed Name and Title

_____
Date Signed Telephone Number

CITY OF VICTORVILLE
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PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

PROPOSAL SHEET

The undersigned declares that the locations of the proposed scope of services have been carefully examined; and being familiar with all of the conditions surrounding the services requested, including the availability of equipment/furniture and labor, the undersigned hereby proposes to furnish all labor, materials, tools, furniture, fixtures, equipment, and incidentals (if applicable), to fulfill the scope of services at both the library and golf course facility. All of the aforementioned shall be done in accordance with said scope of services for the price set forth in the following schedule:

NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE, 14144 Green Tree Blvd., Victorville, CA 92395

ITEM	DESCRIPTION	TOTAL AMOUNT
1	Total costs as shown in the Scope of Work, shall include but not limited to labor, materials, furniture, fixtures, equipment, tools, finishing, transportation, and incidentals required for the proper completion of the work	
	TOTAL BID	$

TOTAL COST IN WORDS:

_____

_____

COST DETAIL: Costs should also be broken down in a unitary manner to allow for additions or deletions to the scope, such as the addition or deletion of a chair, table, cubicle, book stack, etc.:

ITEM	DESCRIPTION	AMOUNT PER ITEM

Proposer Name:_____

By:_____ Title:_____

Address: _____

Phone:_____ Email Address:_____

_____

Signature Title Date

NOTE: COST PROPOSAL SHEET (PAGES 20-21) NEEDS TO BE SUBMITTED SEPARATELY IN A <u>SEALED</u> ENVELOPE CLEARLY IDENTIFIED AS "SEALED DOLLAR COST FOR JM25-025 PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE"

CITY OF VICTORVILLE
RFP JM25-025
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PROPOSER IDENTIFICATION

1. Legal name of Proposer: _____

2. Street Address: _____

3. Mailing Address:_____

4. Business Telephone: _____

5. Facsimile Telephone: _____

6. Email Address: _____

7. Type of Business:

   ☐ Sole Proprietor ☐ Partnership ☐ Corporation Other: _____

   If corporation, indicate State where incorporated: _____

8. Business License number issued by The City where the Proposer's principal place of business is located.

   Number: _____ Issuing City: _____

9. Proposer's License number and expiration date.

   Number:_____ Expiration date:_____

10. Federal Tax Identification Number: _____

11. Proposer's Project Manager: _____

12. Name & Title of Authorized person to sign legal document: _____

    _____

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LIST OF SUB-CONTRACTORS

Proposer's Name_____

Name Sub-contractor is licensed under: _____

License Number and Classification: _____

DIR Registration No:_____

Address of Subcontractor: _____

Percent (%) of Total Contract:_____%

Specific Description of Subcontract: _____

Name Sub-contractor is licensed under: _____

License Number and Classification: _____

DIR Registration No:_____

Address of Subcontractor: _____

Percent (%) of Total Contract:_____%

Specific Description of Subcontract: _____

Name Sub-contractor is licensed under: _____

License Number and Classification: _____

DIR Registration No:_____

Address of Subcontractor: _____

Percent (%) of Total Contract:_____%

Specific Description of Subcontract: _____

Name Sub-contractor is licensed under: _____

License Number and Classification: _____

DIR Registration No:_____

Address of Subcontractor: _____

Percent (%) of Total Contract:_____%

Specific Description of Subcontract: _____

INITIAL IF NO SUB: _____

CITY OF VICTORVILLE
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WORKERS' COMPENSATION CERTIFICATE

The Proposer shall execute the following form as required by the California Labor Code, Sections 1860 and 1861:

> I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and on behalf of my firm, I will comply with such provisions before commencing the performance of the services of any contract entered into.

Note: The above Certification form is part of the Bid Proposal. Signing the Bid Proposal on the signature portion thereof shall also constitute signature of this Certification. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Signature	Company Name
Printed Name	Business License Number
Title	Date

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NON-COLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
(Public Contract Code Section 7106)

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____[state].

_____	_____
Signature	Company Name
_____	_____
Printed Name	Title

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REFERENCES

List three (3) persons or firms with whom you have conducted business transactions of similar scope during the past five (5) years.

REFERENCE NO. 1

Name_____

Firm/Title_____

Address_____

Telephone _____ Fax _____ Email:_____

Description of the scope of work:

_____

REFERENCE NO. 2

Name_____

Firm/Title_____

Address_____

Telephone _____ Fax _____ Email:_____

Description of the scope of work:

_____

REFERENCE NO. 3

Name_____

Firm/Title_____

Address_____

Telephone _____ Fax _____ Email:_____

Description of the scope of work:

_____

CITY OF VICTORVILLE
RFP JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

DEBARRED CERTIFICATION ACKNOWLEDGEMENT

(a)(1) The Offeror/Bidder certifies, to the best of its knowledge and belief, that—

(i) The Offeror/Bidder and/or any of its Principals—

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have not, within a three-year period preceding this solicitation, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating Federal criminal tax laws, or receiving stolen property;

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision;

(ii) The Offeror/Bidder has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principal," for the purposes of this certification, means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (***e.g.***, general manager; plant manager; head of a division or business segment; and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror/Bidder shall provide immediate written notice to the City if, at any time prior to contract award, the Offeror/Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's/Bidder's responsibility. Failure of the Offeror/Bidder to furnish a certification or provide such additional information as requested by the City may render the Offeror/Bidder nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror/Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror/Bidder knowingly rendered an erroneous certification, in addition to other remedies available to the City, the City may terminate the contract resulting from this solicitation for default.

The Offeror/Bidder certifies that the foregoing is true and correct:

Offeror/Bidder:_____Federal I.D. No:_____

Address:_____

Phone:_____Fax:_____Email:_____

Signature:_____Date:_____

CITY OF VICTORVILLE
RFP JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

FLEET COMPLIANCE CERTIFICATION FORM

Bidder hereby acknowledges that it has reviewed the California Air Resources Board's policies, rules, and regulations and is familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 ("Off-Road Regulation"). Bidder hereby certifies, under penalty of perjury, that the option checked below relating to the Bidder's fleet, and/or that of its subcontractor(s), is true and correct:

☐ The Fleet is subject to the requirements of the Off-Road Regulation, and the appropriate Certificate(s) of Reported Compliance have been attached hereto.

☐ The Fleet is exempt from the Off-Road Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto.

☐ Bidder and/or its subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Off-Road Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, its attempts to procure renewable diesel fuel and proof that shows it was not able to procure renewable diesel (i.e., third party correspondence or vendor bids).

☐ The Fleet is exempt from the requirements of the Off-Road Regulation pursuant to section 2449(i)(4) because this Project has been deemed an emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the noted emergency operations, and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4).

☐ The Fleet does not fall under the Regulation or is otherwise exempted and a detailed reasoning is attached hereto.

Name of Bidder:_____

Signature: _____

Name: _____

Title: _____

Date: _____

END OF FLEET COMPLIANCE CERTIFICATION

ATTACHMENT “A”

SAMPLE

CONSULTANT/PROFESSIONAL SERVICES AGREEMENT

CONSULTANT/PROFESSIONAL SERVICES PROVIDER AGREEMENT
BY AND BETWEEN
THE CITY OF VICTORVILLE
AND
CONSULTANT COMPANY NAME
FOR
PROJECT TITLE AND NUMBER

THIS CONSULTANT/PROFESSIONAL SERVICES PROVIDER AGREEMENT (hereinafter "**Agreement**"), is made and entered into by and between THE CITY OF VICTORVILLE, a California charter city and municipal corporation, hereinafter referred to as the **"City**", and(CONSULTANT), (STATE FORM OF BUSINESS), hereinafter referred to as "**Consultant**." City and Consultant are sometimes hereinafter referred to individually as a "**Party**" and collectively as the "**Parties**."

RECITALS:

WHEREAS, the City requires Consultant/Professional Services to provide _____ as described in the Request for Proposals ("**RFP**") issued for Project No. _____ (the "**Project**") ; and

WHEREAS, Consultant provided a response to the RFP for said Project and following an evaluation process was selected by the City to be the provider of _____; and

WHEREAS, Consultant represents that it is fully qualified to perform the professional services required for performance under this Agreement by virtue of its experience and the training, education and expertise of its principals and its employees; and

WHEREAS, in light of the facts set forth above, the City desires to retain the services of a qualified Consultant to provide, on an independent contractor basis, _____ for the Project.

NOW THEREFORE, IN CONSIDERATION OF THE COVENANTS, CONDITIONS, AND PROMISES CONTAINED HEREIN AND FOR SUCH OTHER GOOD AND VALUABLE CONSIDERATION, RECEIPT OF WHICH IS HEREBY ACKNOWLEDGED, THE PARTIES HERETO AGREE AS FOLLOWS:

Section 1. RECITALS

The Recitals set forth above are true and correct and are hereby incorporated into this Agreement by this reference, as though set forth fully herein.

Section 2. SCOPE OF SERVICES

Consultant shall provide to the City those services set forth in the Scope of Services, attached hereto as **Exhibit "A"** and incorporated as part of this Agreement by this reference. In the event of a conflict with or inconsistency between the terms of this Agreement and **Exhibit "A"**, the provisions of this Agreement shall prevail, and nothing set forth in **Exhibit "A"** shall be deemed to supersede any of the provisions of this Agreement. Consultant's obligations hereunder shall further include all provisions and terms and conditions set forth in the RFP for the Project identified in the above Recitals (including any City-issued Addenda pertaining thereto). Said RFP is incorporated and made part of this Agreement by this reference. To the extent there is a conflict between the provisions of the RFP and this Agreement, the provisions of this Agreement shall prevail.

Section 3. **COMPENSATION**

The City shall pay to Consultant a sum not to exceed **SPELL OUT AMOUNT and 00/100 Dollars ($000000000)** for faithful performance of the services to be rendered under this Agreement, subject to the Proposal provisions of Section 4, below. No expense reimbursements, including, but not limited to, reimbursements for travel, parking, lodging, and/or meals shall be paid to Consultant unless such expense reimbursements: (i) are specifically provided for and described by nature and type in **Exhibit "B"**, below; (ii) appear on Consultant's monthly invoices to City; (iii) are supported by the appropriate receipts and other such documentation as the City shall require; and (iv) are directly related to the Scope of Services to be performed under this Agreement. In addition, any and all reimbursements shall be made in accordance with any City policy governing same.

Section 4. **COST PROPOSAL (CHANGE AS APPLICABLE)**

The City shall pay Consultant as provided in the Cost Proposal, attached hereto as **Exhibit "B"** and incorporated as part of this Agreement by this reference. The provisions of **Exhibit "B"** notwithstanding, in order to receive payments, Consultant shall be required to submit to the City detailed monthly invoices which include, if applicable, a description of all services/tasks performed, the number of hours expended on each service/task, the name of the person performing the service/task, and expense reimbursement information, if any, as required by Section 3, above. Provided that services have been satisfactorily rendered, invoices shall be paid by the City approximately thirty (30) working days following receipt of Consultant's invoice. In the event of a conflict or inconsistency between this Agreement and Consultant's Cost Proposal attached as **Exhibit "B"**, the provisions of this Agreement shall prevail, and nothing set forth in **Exhibit "B"** shall be deemed to supersede any of the provisions of this Agreement.

Section 5. **STATE PREVAILING WAGE AND RELATED LABOR PROVISIONS**

a. Compliance with State Prevailing Wage Law. Pursuant to California Labor Code Section 1773, the City has obtained from the Director of the Department of Industrial Relations ("**DIR**") the general prevailing rate of per diem wages and the general prevailing wage rate for holiday and overtime work applicable for each craft, classification, or type of worker in San Bernardino County, California, where the Project is to be performed. Copies of these prevailing rate of per diem wages are on file at the City of Victorville Finance Department/Purchasing Division and shall be made available for review to any interested party on request. Copies of these prevailing rate of per diem wages are also available from the State of California via the internet at http://www.dir.ca.gov/DLSR/PWD. Consultant and its subconsultants/subcontractors shall pay not less than said specified prevailing rate of per diem wages to all workers employed by them in the performance of any work under this Agreement which constitutes "public works" or "public work", including without limitation, the _____ , and any other work or services described in or encompassed by California Labor Code ("**Labor Code**") Sections 1720 through 1720.9, 1771, and 1772. Consultant shall be solely responsible for using the correct and current prevailing wage rates and performing accordingly. An error on the part of any awarding body does not relieve the Consultant from the responsibility for payment of the correct prevailing wage, or compliance with the maintenance and inspection of payroll records, posting of prevailing wage rates at the work/job site, employment of apprentices, and other requirements of Labor Code Section 1720 *et seq*.; Labor Code Section 1810 *et seq*.; California Code of Regulations, Title 8, Section 16000 *et seq*.; and all other applicable State labor laws.

b. Designation as Consultant Not Determinative. For purposes of this Agreement, Consultant, its subconsultants and/or subcontractors shall be subject to and shall comply with all provisions of the Labor Code applicable to contractors and subcontractors when they are engaged in the performance of any work under this Agreement which constitutes "public works" or "public work" as defined in subsection a above, despite being designated as a Consultant or subconsultant herein.

c. Conflict. It is further expressly agreed by and between the Parties hereto that should there

be any conflict between the provisions of this Section 5 and the terms of **Exhibit "A"** or **Exhibit "B"** of this Agreement, the provisions of this Section 5 shall control, and nothing herein shall be considered as an acceptance of the terms of Consultant's Scope of Services, Scope of Work, or Cost/Bid Proposal which conflict with the provisions of this Section 5.

d. Payroll Records. Consultant and its subconsultants/subcontractors must comply with the provisions of Labor Code sections 1776 and 1812 and all implementing regulations, including without limitation, those set forth in Title 8 of the California Code of Regulations, Section 16000 *et seq*. (hereinafter the "**Regulations**"), which are fully incorporated by this reference, **including requirements for electronic submission of payroll records to the DIR.**

(1) Consultant and Subconsultant/Subcontractor Obligations. Consultant and each subconsultant or subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(a) The information contained in the payroll record is true and correct; and

(b) Consultant and or subconsultant/subcontractor has complied with the requirements of Labor Code Sections 1771, 1811, and 1815 for any covered work performed by its employees on the Project.

(2) Certified Record. A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to the City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(3) Enforcement. Upon notice of noncompliance with Labor Code Section 1776, Consultant and/or subconsultant/subcontractor has ten days in which to comply with the requirements of this section. If Consultant and/or subconsultant/subcontractor fails to do so within the ten-day period, Consultant and/or subconsultant/subcontractor will forfeit a penalty of $100.00 per day, or portion a day, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Consultant and/or subconsultant/subcontractor.

(4) Payment of Invoices. Copies of the certified payrolls, proof of payroll submissions, and appropriate lien releases are required with each invoice to the City. Payment of the invoice may be delayed when payroll-related documents and/or lien releases are not included with the invoice.

e. Apprentices. Consultant is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code section 1777.5, which is fully incorporated by reference.

f. Notices. Pursuant to Labor Code section 1771.4, Consultant is required to post all Job Site notices, including prevailing wage rates and other notices, as required by regulation.

g. Other Labor Requirements. Consultant has the responsibility for and shall comply with all other applicable requirements of Labor Code Section 1720 *et seq*., Labor Code Section 1810 *et seq*., the Regulations, and all other applicable State labor laws. Consultant further acknowledges and agrees that it will be independently responsible for reviewing the applicable laws and regulations and effectuating compliance with those laws. Consultant shall require the same of all its subconsultants or subcontractors.

h. Statutory Penalties. The statutory penalties for failure to pay prevailing wage or to comply with State wage and hours laws will be enforced as follows:

(1) Pursuant to Labor Code section 1775, the Consultant and any subcontractor/subconsultant under it shall forfeit as a penalty to the City not more than Two Hundred Dollars ($200.00), for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined by the Director of the DIR for such work or craft in which such worker is employed for any public work done under this Agreement by it or by any subcontractor/subconsultant under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Consultant and/or subconsultant/subcontractor as provided for in Section 1775.

(2) Pursuant to Labor Code Section 1813, Consultant and its subconsultants or subcontractors shall, as a penalty to the City, forfeit twenty-five dollars ($25) for each worker employed in the execution of this Agreement by the respective Consultant or subconsultant/subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week, except as specified in Labor Code Section 1815. In accordance with the provisions of Labor Code Section 1810 *et seq*., eight (8) hours is the legal working day.

i. DIR Monitoring. Pursuant to Labor Code Section 1771.4, this Agreement is subject to compliance monitoring and enforcement by the DIR.

j. DIR Registration. Pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and its subconsultants/subcontractors must be registered with the DIR prior to the execution of a contract to perform public works. By entering into this Agreement, Consultant represents that it is aware of the registration requirement and is currently registered with the DIR. Consultant shall maintain a current registration for the duration of the Agreement. Consultant shall further include the requirements of Labor Code Sections 1725.5 and 1771.1 in any subcontract and ensure that all subconsultants/subcontractors are registered at the time this Agreement is entered into and maintain registration for the duration thereof.

Section 6. TERM OF AGREEMENT

Unless earlier terminated in accordance with the provisions in Section 21 of this Agreement, the term of this Agreement shall be for a period of _____ _(__) years/months/days, commencing on _____ and expiring on _____ (the "**Initial Term**"). From and after said expiration date, and upon subsequent written Agreement by the Parties, this Agreement may continue on a month-to-month basis until terminated pursuant to Section 21 below.

[IF NO OPTION PERIODS -- DELETE THIS SECTION FROM THE AGREEMENT IN ITS ENTIRETY]—

This Agreement may be extended for **[_____]** additional one-year period(s) (each hereinafter an "Option Period"), at the option of City, subject to satisfactory performance as determined by the City. City shall give Consultant sixty (60) days advance written notice prior to the expiration the Initial Term and sixty (60) days advance written notice prior to the expiration date of each subsequently exercised Option Period, if any, should the City decide to exercise its option(s) to extend. In the event City does not give Consultant such written notice of its option to extend, this Agreement shall terminate at the end of the then-current Term or Option Period without further notice from either Party, unless terminated earlier pursuant to the provisions of Section 21 below. Should the City fail to give Consultant the sixty (60) days written notice of its intention to exercise any Option Period, the City may, in its sole discretion, elect to exercise any Option Period at a later date, following written inquiry from Consultant.

Section 7. **INDEPENDENT CONTRACTOR STATUS**

a. City retains Consultant on an independent contractor basis and not as an employee. The Parties hereto warrant and represent that Consultant is an independent contractor and not an employee, agent, joint venture, or partner of the City. The services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods, and details of performing the Services subject to the requirements of this Agreement. Any employees performing the Services under this Agreement on behalf of Consultant shall also not be employees of City and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such employees in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional employees, including: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

b. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between the City and Consultant or between the City and any of Consultant's employees performing the Services under this Agreement on behalf of Consultant. The City will not be requested or demanded to assume any liability for the direct payment of any salary, wage, or other compensation or benefits to any person employed by Consultant to perform the services described herein. Both Parties acknowledge that neither Consultant, nor any of its employees are considered City employees for state or federal tax purposes or for any other purpose. Consultant shall retain the right to perform services for others during the term of this Agreement, provided that such work does not create a conflict of interest. Nothing in this Agreement shall be interpreted to imply that the Parties must maintain any contractual relationship with each other on a continuing basis after termination of this Agreement. Nothing contained in this Agreement shall prevent the City from hiring Consultant's employees after termination of this Agreement.

c. Any provision of this Agreement that may appear to give the City a right to direct Consultant concerning the details of performing its obligations and/or duties under this Agreement, or to exercise any control over such performance, shall mean only that Consultant shall follow the direction of the City concerning the end results of the performance.

Section 8. **NOT AGENT OF THE CITY**

a. Nothing contained in this Agreement shall be deemed, construed, or represented by the City or Consultant or by any third person to create the relationship of principal and agent.

b. Consultant shall have no authority, express or implied, to act on behalf of the City in any capacity whatsoever as an agent, nor shall Consultant have any authority, express or implied, to bind the City to any obligation whatsoever.

Section 9. **PRINCIPAL REPRESENTATIVES**

a. _____, _____ or his/her designee, is designated as the principal representative of Consultant for purposes of communicating with the City on any matter associated with the performance of the services set forth in this Agreement.

b. _____, _____ or his/her designee (hereinafter "**City Project Manager**") shall be the principal representative of the City for purposes of communicating with Consultant on any matter associated with the performance of the services set forth in this Agreement, and such other functions and duties as are specified elsewhere in this Agreement.

c. Either Party may designate another individual as its principal representative by giving written notice of such designation to the other Party.

Section 10. **LICENSES AND PERMITS**

Consultant warrants and represents that it has obtained and will maintain at all times during the Initial Term of this Agreement and during any extensions or Option Periods, if applicable, all business licenses, including but not limited to, a City of Victorville business license, professional licenses or certifications, or permits necessary for performing the services described in this Agreement. A valid California contractor's license of the type/class(es) specified in the RFP, shall be held or obtained by consultant and/or its subcontractors prior to commencing any Work hereunder and maintained throughout the term of this Agreement.

Section 11. **STANDARD OF PERFORMANCE; WARRANTIES**

a. Consultant agrees to perform all services required by this Agreement in a professional and competent manner, in accordance with the degree of skill and diligence which is normally employed by reputable professionals performing similar services under similar conditions in the same or similar locality. Such services shall also be performed in a manner which is reasonably satisfactory to City's Project Manager.

b. By executing this Agreement, Consultant warrants that it:

(1) Has thoroughly investigated and considered the services and work to be performed;

(2) Has investigated the issues regarding the scope of services to be provided;

(3) Has carefully considered how the services and related work should be performed; and

(4) Fully understands the facilities, difficulties and restrictions associated with performance of the services required by this Agreement.

Section 12. **FAMILIARITY WITH WORK**

Should Consultant discover any latent or unknown conditions materially differing from those inherent in the services or as represented by the City, Consultant shall immediately inform the City of such fact and shall not provide any services, except at Consultant's risk, until written instructions are received from City's Project Manager.

Section 13. **CONFLICTS OF INTEREST**

a. Consultant warrants and represents that it has no known relationships with third parties, City Council members, or employees of City which would: (1) present a conflict of interest pursuant to California Government Code Section 1090, the Political Reform Act (*Government Code § 81000 et seq*.), or any other applicable conflict or interest law; or (2) prevent Consultant from performing the Services required by this Agreement.

b. Consultant covenants that it does not have any interest, nor shall it acquire any interest, directly or indirectly, which would conflict in any manner with the performance of Consultant's services under this Agreement or which would constitute a violation of any conflict-of-interest law, including Section 81000 *et seq*. or Section 1090 *et seq*. of the California Government Code. Consultant further covenants that in the performance of services under this Agreement, no officer, employee or agent of Consultant having such interest shall be employed by it.

c. Acquisition or maintenance of a conflicting interest by Consultant may result in termination of this Agreement by the City.

d. In the event the City determines that Consultant must disclose its financial interests by completing and filing a Fair Political Practices Commission Form 700, Statement of Economic Interests, Consultant shall file such Form 700 with the City Clerk's Office pursuant to the written instructions provided by the City Clerk.

Section 14. COMPLIANCE WITH LAWS

a. Consultant shall comply with all local, state, and federal laws and regulations applicable to the services to be rendered hereunder, including any rule, regulation, or bylaw governing the conduct or performance of Consultant or its employees, officers, or board members. Consultant shall not discriminate in the employment of persons or in the provision of services under this Agreement on the basis of any legally protected classification, including race, color, national origin, ancestry, sex or religion of such person.

b. Consultant and all subcontractors shall further comply with: the California Fair Employment and Housing Act (*Cal. Gov. Code §12900 et seq*.) and the regulations promulgated thereunder (Cal. Code Regs., tit. 2, §11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code §§ 11135-11139.5), and the regulations or standards adopted by the State Library to implement such article. Consultant shall not hire or employ any person to perform work within the City or allow any person to perform work required under this Agreement unless such person is properly documented and legally entitled to be employed within the United States. The consultant and all subcontractors shall also comply with the requirements of the Drug-Free Workplace Act of 1990 (*Cal. Gov. Code §8350 et seq*.).

c. **Additional State Grant Requirements.**

(1) Consultant has been advised and acknowledges that the Project is being funded in whole or in part with A California State Library Grant **(Award Agreement Number BF-2-21-011**). Consultant shall be required to comply with all applicable provisions of that Grant Award Agreement, including without limitation, the following:

(a) Non-Discrimination. Consultant and subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, or military and veteran status. Consultant shall insure that the evaluation and treatment of contractors, employees and applicants for employment are free from such discrimination and harassment.

(b) Access. Consultant shall permit access by representatives of the Department of Civil Rights and the State Library upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or the State Library shall require ascertaining compliance with this clause. Consultant and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. (See Cal. Code Regs., tit. 2, §11105.). Such access is in addition to the audit access requirements set forth in Section 17 of this Agreement.

(c) Russian Sanctions. Executive Order N-6-22 – Russian Sanctions: On March 4, 2022, Governor Gavin Newsom issued Executive Order N6-22 (the "EO") regarding economic

sanctions in response to Russian aggression in Ukraine. The EO is located at https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia -Ukraine-Executive-Order.pdf.

Compliance with the economic sanctions imposed in response to Russia's actions in Ukraine is required, including with respect to, but not limited to, the federal EO identified in the EO and the sanctions identified on the U.S. Department of the Treasury website at https://home.treasury.gov/policy-issues/financial-sanctions-programs-and-and-country-information/ukraine-russia-related-sanctions.

Consultant represents that it is not a target of economic sanctions. Should it be determined that Consultant is a target of economic sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this Contract.

(2) Said Grant Award Agreement is on file in the Victorville City Clerk's Office and is hereby incorporated as part of this Contract by this reference.

Section 15. INSURANCE

a. Required Policies. Consultant shall be required to procure and maintain at its own expense at all times during the term of this Agreement (and during any option or extension periods) the following policies of insurance:

(1) **Commercial General Liability Insurance** ("CGL") of not less than One Million Dollars ($1,000,000) per occurrence, and Two Million Dollars ($2,000,000) in the aggregate, for bodily injury, personal injury, death, loss, or damage resulting from the acts or omissions of the Consultant or its officers, employees/personnel, servants, volunteers, agents, and Subcontractors.

(2) **Commercial Vehicle Liability Insurance** covering personal injury and property damage, of not less than One Million Dollars ($1,000,000) combined single limit, covering any vehicle utilized by Consultant or its officers, employees/personnel, servants, volunteers, agents, and Subcontractors in performing the services required by this Agreement.

(3) **Professional Liability or Errors and Omissions Insurance** as appropriate to Consultant's profession written on a policy form specifically designed to provide coverage for and protect against the negligent acts, errors, and omissions of the Consultant in the performance of the services required by this Agreement. A minimum limit of One Million Dollars ($1,000,000) per claim and in the aggregate must be provided.

(4) **Workers' Compensation Insurance**, as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.

(5) Reserved.

(6) Reserved.

b. Additional Insurance Requirements. With respect to the policies of insurance set forth above, compliance with the following is also required:

(1) **Additional Insureds**. Notwithstanding any inconsistent statement in any required insurance policies or any subsequent endorsements attached thereto, all insurance policies, except for the Workers' Compensation and Professional Liability, shall be endorsed, with coverage at least as broad as ISO form CG 20 10, to name the City and its officers, employees, servants, volunteers,

agents, and independent contractors, including, without limitation, the City Attorney, as Additional Insureds.

(2) **Waiver of Subrogation**. Consultant shall require the carriers of all required insurance policies, with exception of the Professional Liability policy, to waive all rights of subrogation against the City and its officers, employees, servants, volunteers, agents, independent contractors, and subcontractors. Each policy of insurance shall be endorsed to reflect such waiver.

(3) **Sufficiency of Insurers**. Consultant must secure all required policies of insurance from a good and responsible company or companies authorized to do insurance business in the State of California, with an AM Best's rating of not less than A:VII.

(4) **Proof of Insurance Coverage**. Consultant shall furnish to the City Clerk certificates of insurance evidencing the required coverages and policy endorsements at least ten (10) business days prior to the commencement of any services to be performed under this Agreement, and two weeks prior to each policy expiration date thereafter, evidencing that the policy has been renewed or replaced with adequate coverages.

(5) **Cancellation or Amendment**. The policies shall be endorsed to provide that in the event of cancellation or amendment of any required insurance policy for any reason whatsoever, the City shall be notified by mail, postage prepaid, not less than thirty (30) days before the cancellation or amendment is effective. In the case of cancellation for non-payment, ten (10) days advance written notice shall be given.

(6) **Primary and Non-Contributory**. The CGL and Vehicle Liability policies shall be endorsed as Primary and Non-contributory.

c. Right to Modify Insurance Requirements. The City reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

d. If Consultant maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

Section 16. REPORTS

Upon request by City's Project Manager or as otherwise required by this Agreement, including but not limited to, the Scope of Services set forth in Exhibit "A", Consultant shall prepare and submit reports to the City concerning Consultant's performance of the services required by this Agreement.

Section 17. RECORDS

a. Consultant shall keep such books and records as shall be necessary to perform the services required by this Agreement and enable City's Project Manager to evaluate the cost and the performance of such services.

b. Books and records pertaining to costs shall be kept and prepared in accordance with generally accepted accounting principles.

c. City's Project Manager shall have full and free access to such books and records at all reasonable times, including the right to inspect, copy, audit, and make records and transcripts from such records.

d. Records and supporting documents pertaining to the use of funds paid to Consultant hereunder shall be retained by Consultant and made available to City's Project Manager, for purposes of performing an audit for a period of five (5) years from the date final payment is made under this Agreement, or such later date as specified in Subsection e hereof.

e. Consultant further agrees that the State Library, the Department of General Services, the State Auditor, or their designated representatives shall have the right to review, audit, inspect and copy any records and supporting documentation pertaining to the performance of this Agreement. Consultant agrees to maintain such records for possible audit for a minimum of five (5) years after the final payment made under this Agreement, or State Library Grant term end date, whichever is later, unless a longer period of records retention is stipulated, or until completion of any action and resolution of all issues which may arise as a result of any litigation, dispute, or audit, whichever is later. Consultant agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records

Section 18. CONFIDENTIALITY; OWNERSHIP OF WORK

a. Any and all documents and information obtained from the City or prepared by Consultant for the City shall be kept strictly confidential unless otherwise provided by applicable law. All City data, documents and information shall be returned to the City upon termination or expiration of this Agreement.

b. Any drawings, specifications, reports, records, documents, or other materials prepared by Consultant in the performance of services under this Agreement shall not be released publicly without the prior written approval of City's Project Manager or as required by applicable law.

c. Consultant shall not disclose to any other entity or person any information regarding the activities of the City, except with the prior written approval of City's Project Manager or as required by applicable law.

d. All original documents, reports, designs, computer files and all other materials prepared by Consultant in the course of performing the services pursuant to this Agreement, whether completed or in progress, are the property of the City and shall be surrendered to the City upon the completion of Consultant's services or when requested by City's Project Manager Such materials may be used, reused or otherwise disposed of by the City without the permission of Consultant.

e. Consultant's covenants under this Section 18 shall survive the termination of this Agreement.

Section 19. MODIFICATIONS AND AMENDMENTS; EXTRA SERVICES

a. This Agreement may be modified or amended only by a written instrument signed by both Parties.

b. During the Initial Term of this Agreement, or during any extensions or option periods if applicable, the City may request that the Consultant perform Extra Services. As used herein, "Extra Services" means any services, which are determined by the City to be necessary for the proper completion of **PROJECT TITLE,** but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. A written instrument signed by both Parties shall be required to authorize performance of and payment for Extra Services.

Section 20. NOTICES

a. Any notice to be provided pursuant to this Agreement shall be in writing, and all such notices shall be delivered by personal service or by deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, and addressed to the Parties as follows:

To the City: DEPARTMENT HEAD & TITLE
City of Victorville
14343 Civic Drive
Victorville, CA 92392

To Consultant: SERVICE PROVIDER NAME,
TITLE AND ADDRESS_____
_____
_____

b. Notices, payments, and other documents shall be deemed delivered upon receipt by personal service or as of the second (2nd) day after deposit in the United States mail.

c. Either Party may change its address by giving notice in writing to the other Party at the address listed above, and thereafter notices shall be addressed and transmitted to such new address.

Section 21. TERMINATION OR SUSPENSION

a. This Agreement may be terminated or suspended without cause by either Party at any time, provided that the Party initiating the termination provides the other Party at least thirty (30) days advance written notice of such termination or suspension. In the event of such termination, the City shall only be liable for payment under the payment provisions of this Agreement for satisfactory services rendered or supplies actually furnished prior to the effective date of termination.

b. This Agreement may be terminated or suspended with cause by either Party at any time, provided that the Party initiating termination or suspension provides the other Party at least ten (10) days advance written notice of such termination or suspension. In the event of such termination, the City shall only be liable for payment under the payment provisions of this Agreement for satisfactory services rendered or supplies actually furnished prior to the effective date of termination.

Section 22. TIME OF THE ESSENCE

Time is of the essence in the performance of this Agreement.

Section 23. INDEMNIFICATION

a. Except as set forth in Subsection b of this Section 23, and to the fullest extent permitted by law, Consultant shall immediately defend, indemnify, and hold harmless the City, its officers, employees, representatives, and agents (the "City Indemnitees"), from and against those actions, suits, proceedings, claims, demands, losses, costs, and expenses, including legal costs and reasonable attorneys' fees, for any personal injuries, deaths, or property damage, including property owned by the City (collectively "Claims") which may arise out of Consultant's negligence or willful misconduct in the performance of the services described in this Agreement, unless such Claims are proven to be caused by the negligence or willful misconduct of the City Indemnitees.

b. The provisions of this Subsection b apply only in the event that Consultant is a design professional within the meaning of California Civil Code section 2782.8 ("Design Professional"). The term Design Professional, as defined in said section, is limited to licensed architects, licensed landscape

architects, registered professional engineers, professional land surveyors, and the business entities that offer such services in accordance with the applicable provisions of the California Business and Professions Code.

(1) Notwithstanding the provisions of Subsection a above, to the extent that the services to be provided under this Agreement are those of a Design Professional, Consultant's duty to indemnify, hold harmless, and defend the City Indemnitees shall be limited to the extent that any Claims arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, its officers, agents, employees or subconsultants in the performance of the services described in this Agreement.

(2) In no event shall the costs of defense charged to Consultant exceed the Consultant's proportionate percentage of fault, except as otherwise set forth in said Civil Code section 2782.8, the provisions of which are incorporated into this Agreement by this reference. Nothing in this Subsection b shall be construed to require Consultant to provide indemnification for Claims caused by the active negligence or willful misconduct of the City Indemnitees.

c. The City does not and shall not waive any rights that it may have against Consultant under this Section, because of the acceptance by the City, or the deposit with the City, of any insurance policy or certificate required pursuant to this Agreement. The hold harmless and indemnification provisions of this Section 23 shall apply regardless of whether said insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost, or expense described herein.

d. The obligation to indemnify and defend, as set forth in this Section 23, is binding on the successors, assigns, or heirs of Consultant and shall survive the expiration or any early termination of this Agreement.

Section 24. ENTIRE AGREEMENT

a. This Agreement supersedes any and all prior or contemporaneous Agreements, either oral or written, between the City and Consultant with respect to the subject matter of this Agreement.

b. This Agreement contains all of the covenants and Agreements between the Parties with respect to the subject matter of this Agreement, and each Party to this Agreement acknowledges that no representations, inducements, promises, or Agreements have been made by or on behalf of any Party, except those covenants and agreements in this Agreement.

c. No Agreement, statement, or promise with respect to the subject matter of this Agreement, which is not contained in this Agreement, or in a valid modification or amendment to this Agreement, shall be valid or binding on either Party.

Section 25. AMBIGUITIES

This Agreement is in all respects intended by each Party hereto to be deemed and construed to have been jointly prepared by the Parties and the Parties hereby expressly agree that any uncertainty or ambiguity existing herein shall not be interpreted against either of them. Except as expressly limited by this paragraph, or as specified elsewhere in this Agreement, all of the applicable rules of interpretation of contract shall govern the interpretation of any uncertainty or ambiguity of this Agreement.

Section 32. NOTICES

a. Any notice to be provided pursuant to this Agreement shall be in writing, and all such notices shall be delivered by personal service or by deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, and addressed to the Parties as follows:

To the City: DEPARTMENT HEAD & TITLE
City of Victorville
14343 Civic Drive
Victorville, CA 92392

To Consultant: SERVICE PROVIDER NAME,
TITLE AND ADDRESS

b. Notices, payments, and other documents shall be deemed delivered upon receipt by personal service or as of the second (2nd) day after deposit in the United States mail.

Section 26. **NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES**

No officer or employee of the City shall be personally liable to Consultant, or any successor in interest, in the event of any default or breach by the City or for any amount, which may become due to Consultant or to its successor(s), or for any breach of any obligation of the terms of this Agreement.

Section 27. **REVIEW BY ATTORNEYS**

Each Party hereto has had its attorney(s) review this Agreement and all related documents. Each Party hereto has consulted with its attorney(s) and has negotiated the terms of this Agreement based on such consultation.

Section 28. **WAIVER**

a. No waiver shall be binding unless executed in writing by the Party making the waiver.

b. No waiver of any provision of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether similar, nor shall any such waiver constitute a continuing or subsequent waiver of the same provision.

c. Failure of either Party to enforce any provision of this Agreement shall not constitute a waiver of the right to compel enforcement of such provision or any of the remaining provisions of this Agreement.

Section 29. **ASSIGNMENT**

Neither this Agreement, nor the rights and duties of the Parties hereunder, shall be assigned by either Party without prior written consent of the other Party.

Section 30. **CARE OF WORK**

The performance of services by Consultant or the payment of money by the City shall not relieve Consultant from any obligation to correct any incomplete, inaccurate, or defective work at no further cost to the City, when such incomplete, inaccurate, or defective work is due to the negligence of Consultant. Consultant shall adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work and the equipment, materials, papers, documents, plans, studies, and/or other components thereof to prevent losses or damages, and shall be responsible for all such damages, to persons or property, until acceptance of the work by the City, except such losses or damages as may be caused by City's own negligence.

Section 31. **CAPTIONS AND HEADINGS**

The captions and headings contained in this Agreement are provided for identification purposes only and shall not be interpreted to limit or define the content of the provisions described under the respective caption or heading.

Section 32. SUCCESSORS, HEIRS, AND ASSIGNS

Except as otherwise expressly provided herein, this Agreement shall be binding upon the successors, endorsees, assigns, heirs, and personal representatives of each of the Parties to this Agreement and, likewise, shall inure to the benefit of the successors, endorsees, assigns, heirs, and personal representatives of each of the Parties.

Section 33. GENDER ; SINGULAR AND PLURAL

In this Agreement, unless the context clearly requires otherwise, the masculine, feminine and neuter genders and the singular and the plural shall include one another.

Section 34. SEVERABILITY

If any one or more of the sentences, clauses, paragraphs, or sections contained herein is declared invalid, void, or unenforceable by a court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement and shall not affect, impair, or invalidate any of the remaining sentences, clauses, paragraphs, or sections contained herein.

Section 35. GOVERNING LAW

The validity of this Agreement and any of its terms or provisions, as well as the rights and duties of the Parties under this Agreement, shall be construed pursuant to and in accordance with California law.

Section 36. DEFAULT

a. Failure or delay by any Party to this Agreement to perform any material term or provision of this Agreement shall constitute a default under this Agreement; provided however, that if the Party who is otherwise claimed to be in default by the other Party commences to cure, correct, or remedy the alleged default within fifteen (15) days after receipt of written notice specifying such default and shall diligently complete such cure, correction, or remedy, such Party shall not be deemed to be in default hereunder.

b. The Party claiming that a default has occurred shall give written notice of default to the Party in default, specifying the alleged default. Delay in giving such notice shall not constitute a waiver of any default nor shall it change the time of default; provided, however, the injured Party shall have no right to exercise any remedy for a default hereunder without delivering the written default notice, as specified herein.

c. Any failure or delay by a Party in asserting any of its rights or remedies as to any default shall not operate as a waiver of any default or of any rights or remedies associated with a default.

d. In the event that a default by any Party to this Agreement may remain uncured for more than fifteen (15) days following written notice, as provided above, the injured Party shall be entitled to seek any appropriate remedy, including termination or damages, by initiating legal proceedings.

Section 37. CUMULATIVE REMEDIES

Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the Parties are cumulative and the exercise by either Party of one or more of

such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default of any other default by the other Party.

Section 38. VENUE

All proceedings involving disputes over the terms, provisions, covenants, or conditions contained in this Agreement and all proceedings involving any enforcement action related to this Agreement shall be initiated and conducted in the applicable court or forum in San Bernardino County, California.

Section 39. ATTORNEYS' FEES

In the event any action, suit, or proceeding is brought for the enforcement of, or the declaration of any right or obligation pursuant to this Agreement, or as a result of any alleged breach of any provision of this Agreement, the prevailing Party in such suit or proceeding shall be entitled to recover its costs and expenses, including reasonable attorneys' fees, from the losing Party, and any judgment or decree rendered in such a proceeding shall include an award thereof.

Section 40. EFFECTIVENESS OF AGREEMENT

This Agreement shall not be binding upon the City, until it has been signed by the authorized representative(s) of Consultant, approved as to form by the City Attorney, reviewed by the City's Risk Manager, and executed by the authorized City personnel or the Mayor. This Agreement shall be considered effective as of the date it is fully executed.

Section 41. REPRESENTATIONS OF PARTIES AND PERSONS EXECUTING AGREEMENT

a. Each of the Parties to this Agreement hereby represents that all necessary and appropriate actions of their governing bodies have been taken to make this Agreement a binding obligation of each of the Parties hereto.

b. The persons executing this Agreement warrant that they are duly authorized to execute this Agreement on behalf of and bind the Parties each purports to represent.

Section 42. COUNTERPARTS

This Agreement may be executed by the Parties in counterparts, and when executed by each of the Parties, each counterpart shall be deemed to be a part of this Agreement.

Section 43. CARB COMPLIANCE OBLIGATIONS

a. CARB Regulations. Contractor is aware of the California Air Resources Board ("CARB") regulations mandating various emission reduction requirements. Consultant agrees to comply with all applicable CARB regulations (Title 13, Division 3 of the California Code of Regulations ("CCR")) prior to commencing any work hereunder and maintain compliance throughout the duration of this Agreement.

1. Vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 8,500 lbs. and light-duty package delivery vehicles operated in California may be subject to CARB's Advanced Clean Fleets regulations. Such vehicles may therefore be subject to requirements to reduce emissions of air pollutants. For more information, please visit the CARB Advanced Clean Fleets (ACF) webpage at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets.

2. Effective January 1, 2024, CARB implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR Section 2449 *et seq.*, the "Off-Road Regulation") which apply

broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California (including any vehicles or equipment that is rented or leased). The Off-Road Regulation is available at: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf.

b. Contractor must comply with all CARB regulations and requirements, including without limitation, all applicable sections of the Off-Road Regulation (as codified in 13 CCR Section 2449 *et seq.*) throughout the term of the Project and this Agreement. Contractor shall be solely liable for all costs associated with complying with the regulations, as well as for any and all penalties, fines, damages, or costs associated with violations or failures to comply with the regulations. Contractor shall defend, indemnify, and hold harmless the City of Victorville, its elected and appointed officials, officers, agents, and employees from and against any and all claims, liabilities, costs, penalties, interest or other damages arising out of Contractor's failure or alleged failure to comply with CARB regulations.

[**END OF THIS PAGE**]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of the dates written below.

CITY OF VICTORVILLE

By:_____

Name:_____

Title:_____

Date:_____

CONSULTANT

By:_____

Name:_____

Title:_____

Date:_____

ATTEST

_____
Jennifer Thompson, City Clerk

APPROVED AS TO FORM

_____
Andre de Bortnowsky, City Attorney

RISK MANAGEMENT

_____
Sandra Bostick, Risk Manager

EXHIBIT A

SCOPE OF SERVICES

EXHIBIT B

COST PROPOSAL

See Attachment

ATTACHMENT “B”

ARCHITECTURAL/CONSTRUCTION DRAWINGS OF NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

(see Attachment B on City’s website)

ATTACHMENT “C”

INTERIOR ARCHITECTURAL RENDERINGS


EXIT
EXIT
EXIT


EXIT


Children's


Children's


FRIENDS
OF THE LIBRARY

ATTACHMENT “D”

PROJECT SPECIFICATIONS

PROJECT MANUAL
FOR
GREEN TREE LIBRAR□

14144 G□□□□ T□□□ B□□□□□□□□
V□□□□□□□□□ C□□□□□□□□ 92395

OWNER	**CIT□ OF VICTORVILLE CALIFORNIA**
ARCHITECT	**TR DESIGN GROUP ARCHITECTURE** 2900 Adams Street, Studio A-400 Riverside, California 92504 951.742.7179 phone 951.742.7178 fax Contact: Brian Gridley; brian trdesigngroup.com
STRUCTURAL ENGINEER	**VERTEX CONSULTING STRUCTURAL ENGINEERS LLC.** 8165 East Indian Bend Road, Suite 105 Scottsdale, Arizona 85250 480.773.7042 phone Contact: Ryan ; ryan vertexcse.com
CIVIL ENGINEER	**MERRELL JOHNSON ENGINEERING** 22221 U.S. Highway 18 Apple Valley, California 92307 760.240.8000 phone Contact: Cary Packer; cary.packer merrelljohnson.com
MEP ENGINEER	**GMEP ENGINEERS** 26439 Rancho Parkway South, Suite 120 Lake Forest, California 92630 949.267.9095 phone Contact: Justin Korson; justink gmepe.com
LANDSCAPE ARCHITECT	**SR-LA LANDSCAPE ARCHITECTURE** 87 Columbia Street Pasadena, California 91205 510.368.0136 phone Contact: Sally Reynolds; sally sr-la.com
JOB NUMBER	**21-067**
DATE	**8 D□□□□ □□□2023 – B□□ S□□**

SECTION 000110 - TABLE OF CONTENTS

END OF TABLE OF CONTENTS

SECTION 011000

SUMMAR

PART 1 GENERAL

1.1 PROJECT
- A. Project Name: Victorville Green Tree Library, Victorville, California.
- B. Owner's Name: City of Victorville, California.
- C. Architect's Name: TR Design Group, Architecture; 2900 Adams, Studio A-400; Riverside, California 92504.
- D. The Project consists of the alteration of an existing golf clubhouse facility for new library and golf clubhouse operations and addition of a new 5,000 s.f. children's library wing, located in Victorville, California..

1.2 CONTRACT DESCRIPTION
- A. Contract Type: Single prime contract.

1.3 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.

1.4 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.
    - a. Owner will occupy and operate basement area for golf cart storage and maintenance throughout the duration of project work.
  - 2. Work by Others.
  - 3. Work by Owner.
- C. Provide access to and from site as required by law and by Owner:
  - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
  - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Utility Outages and Shutdown:
  - 1. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012000

PRICE AND PA□MENT PROCEDURES

PART 1 GENERAL

1.1 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. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.2 SCHEDULE OF VALUES
- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

1.3 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. Percentage of Completion.
  9. Balance to Finish.
  10. Retainage.
     - a. Retainage will be 5% of total amount per Application for Payment.
- 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. Include the following with the application:
  1. Transmittal letter as specified for submittals in Section 013000.
  2. Construction progress schedule, revised and current as specified in Section 013000.
- J. 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.

1.4 MODIFICATION PROCEDURES
- A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.
- B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
  1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
  2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within five days.
D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
   3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.
   4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.
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. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. 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. 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.
H. Promptly enter changes in Project Record Documents.

1.5 APPLICATION FOR FINAL PAYMENT
A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

END OF SECTION

SECTION 012100

ALLOWANCES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Cash allowances.
- B. Contingency allowance.
- C. Inspecting and testing allowances.
- D. Payment and modification procedures relating to allowances.

1.2 CASH ALLOWANCES
- A. Costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts, less cost of delivery to site , less applicable taxes .
- B. Costs Not Included in Cash Allowances: Product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.
- C. Architect Responsibilities:
  1. Consult with Contractor for consideration and selection of products, suppliers , and installers.
  2. Select products in consultation with Owner and transmit decision to Contractor.
  3. Prepare Change Order.
- D. Contractor Responsibilities:
  1. Assist Architect in selection of products, suppliers , and installers.
  2. Obtain proposals from suppliers and installers and offer recommendations.
  3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
  4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
  5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- E. Differences in costs will be adjusted by Change Order.

1.3 CONTINGENCY ALLOWANCE
- A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.
- B. Funds will be drawn from the Contingency Allowance only by Change Order.
- C. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.4 INSPECTING AND TESTING ALLOWANCES
- A. Costs Included in Inspecting and Testing Allowances: Cost of engaging an inspecting or testing agency; execution of inspecting and tests; and reporting results.
- B. Costs Not Included in the Inspecting and Testing Allowances:
  1. Costs of incidental labor and facilities required to assist inspecting or testing agency.
  2. Costs of testing services used by Contractor separate from Contract Document requirements.
  3. Costs of retesting upon failure of previous tests as determined by Architect.
- C. Payment Procedures:
  1. Submit one copy of the inspecting or testing firm's invoice with next application for payment.
  2. Pay invoice on approval by Architect.
- D. Differences in cost will be adjusted by Change Order.

1.5 ALLOWANCES SCHEDULE
- A. To be determined.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 012200

UNIT PRICES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.
- C. Defect assessment and non-payment for rejected work.

1.2 COSTS INCLUDED
- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.3 UNIT QUANTITIES SPECIFIED
- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.4 MEASUREMENT OF QUANTITIES
- A. Measurement methods delineated in the individual specification sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification section govern.
- B. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.
- D. Measurement Devices:
  1. Weigh Scales: Inspected, tested and certified by the applicable state Weights and Measures department within the past year.
  2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
  3. Metering Devices: Inspected, tested and certified by the applicable state department within the past year.
- E. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
- F. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- G. Measurement by Area: Measured by square dimension using mean length and width or radius.
- H. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- I. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.
- J. Perform surveys required to determine quantities, including control surveys to establish measurement reference lines. Notify Architect prior to starting work.
- K. Contractor's Engineer Responsibilities: Sign surveyor's field notes or keep duplicate field notes , calculate and certify quantities for payment purposes.

1.5 PAYMENT
- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.
- B. Payment will not be made for any of the following:
  1. Products wasted or disposed of in a manner that is not acceptable.
  2. Products determined as unacceptable before or after placement.
  3. Products not completely unloaded from the transporting vehicle.
  4. Products placed beyond the lines and levels of the required Work.
  5. Products remaining on hand after completion of the Work.
  6. Loading, hauling, and disposing of rejected Products.

1.6 DEFECT ASSESSMENT
- A. Replace Work, or portions of the Work, not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Architect.
   2. The defective Work will be partially repaired to the instructions of the Architect, and the unit price will be adjusted to a new unit price at the discretion of Architect.
C. The individual specification sections may modify these options or may identify a specific formula or percentage price reduction.
D. The authority of Architect to assess the defect and identify payment adjustment is final.

1.7 SCHEDULE OF UNIT PRICES
   A. To be determined.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 013000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Electronic document submittal service.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Construction progress schedule.
- E. Progress photographs.
- F. Submittals for review, information, and project closeout.
- G. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING
- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required:
  1. Owner.
  2. Architect.
  3. Contractor.
- C. Agenda:
  1. Execution of Owner-Contractor Agreement.
  2. Submission of executed bonds and insurance certificates.
  3. Distribution of Contract Documents.
  4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
  5. Designation of personnel representing the parties to Contract and <1 A/E >.
  6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  7. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.2 PROGRESS MEETINGS
- A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
  1. Contractor.
  2. Owner.
  3. Architect.
  4. Contractor's superintendent.
  5. Major subcontractors.
- D. Agenda:
  1. Review minutes of previous meetings.
  2. Review of work progress.
  3. Field observations, problems, and decisions.
  4. Identification of problems that impede, or will impede, planned progress.
  5. Review of submittals schedule and status of submittals.
  6. Review of off-site fabrication and delivery schedules.
  7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Planned progress during succeeding work period.
  10. Coordination of projected progress.

11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to work.

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

3.3 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 013216

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
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.

3.4 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. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Completion of site clearing.
   2. Excavations in progress.
   3. Foundations in progress and upon completion.
   4. Structural framing in progress and upon completion.
   5. Enclosure of building, upon completion.
   6. Final completion, minimum of ten (10) photos.
D. 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.
E. 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.

3.5 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.
B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in the contract documents.
C. Samples will be reviewed for aesthetic, color, or finish selection.
D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.6 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.

4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

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

3.7 SUBMITTALS FOR PROJECT CLOSEOUT

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

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

3.8 SUBMITTAL PROCEDURES

A. General Requirements:
1. Transmit using approved form.
2. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
3. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
4. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
5. Schedule submittals to expedite the Project, and coordinate submission of related items.
6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
7. Provide space for Contractor and Architect review stamps.
8. When revised for resubmission, identify all changes made since previous submission.
9. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
10. Submittals not requested will not be recognized or processed.
11. No extension of the Contract Time will be authorized due to Contractor's failure to provide submittals in advance of the Work to permit processing or for submitting materials which do not meet minimum standards as indicated in the Specifications.
12. Manufacturer's product data sheets listing multiple items must be clearly marked to indicate the specific material or product submitted for use in the Work

END OF SECTION

SECTION 013216

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.2 REFERENCE STANDARDS
- A. AGC (CPSM) - Construction Planning and Scheduling Manual 2004.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM 2015.

1.3 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.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.

1.4 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

3.1 PRELIMINARY SCHEDULE
- A. Prepare preliminary schedule in the form of a Gantt-Chart.

3.2 GANTT-CHART SCHEDULE REQUIREMENTS
- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed.
  - 1. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

3.3 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.

3.4 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.
G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.5 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 013516

ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY
- A. This Section includes:
  1. Products and installation for patching and extending Work within construction areas of existing facilities.
  2. Providing transition and adjustments.
  3. Repair of damaged surfaces and finishes.
- B. Related Sections include the following:
  1. Division 01 Section “Temporary Facilities and Controls” for construction of temporary fire-rated partitions to separate existing occupied areas from construction areas.

1.2 OCCUPANCY, ACCESS, AND PROTECTION
- A. Entire existing facility will be occupied during progress of construction for conduct of normal operations.
- B. Cooperate with Owner in scheduling operations to minimize conflict and to permit continuous usage. Perform work not to interfere with operations of occupied areas.
- C. Existing facilities will remain in full operation during execution of this Work. Exercise every precaution to ensure safety and protection for existing facilities, occupants, merchandise, pedestrians, and vehicles.
  1. Maintain safe access and egress at all times for occupants, pedestrians, and vehicles.
  2. Provide protection to prevent damage to facilities, merchandise, and vehicles from dust, water, weather, and other similar harmful elements. Refer to Section 015000 - Temporary Facilities and Controls for additional requirements.
  3. Maintain exiting from facilities to provide safe passage complying with applicable codes.

1.3 SCHEDULING OF WORK
- A. Make arrangements with Owner and schedule Work to avoid interference with normal operations of occupied areas. Submit schedule and summary of applicable Work within occupied areas and obtain Owner approval not less than two days prior to commencement of such Work.
  1. Requests for use of certain existing loading docks, passage ways, and other similar spaces within areas outside limits of construction operations will be limited to day-by-day basis and must be approved in advance by Owner.
- B. Coordinate access and scheduling of Work within tenant areas with Owner.

1.4 TORCH-CUTTING AND WELDING PROCEDURES
- A. Notify Owner in advance of torch-cutting and welding operations performed within occupied areas; obtain approval prior to proceeding with such operations.
  1. Neither open-flame torch-cutting, welding nor arc-welding are allowed without having secured appropriate permit from Fire Marshal or authority having jurisdiction.
  2. Keep portable fire extinguisher of appropriate class within reach during welding or torch-cutting operations.
  3. Screen arc-welding from vision of passersby.
- B. Maintain a “Fire Watch” for minimum of 60 minutes after completion of each torch-cutting and welding operation.

1.5 UTILITY SERVICE OUTAGES
- A. Keep utility and service outages to minimum and perform only after written approval of Owner is received.
  1. Requests for outages will not be considered unless they include an identification of areas which will be affected by proposed outage.
  2. Schedule outages for times other than normal business hours.
  3. Make requests for outages minimum of five calendar days in advance of proposed outage.
- B. Contractor: Responsible for investigating utility and service lines to determine effect of outage upon building operations outside of limit of operations. Obtain approval in advance from Owner to execute investigations.

1.6 KEYS
- A. When necessary to perform Work, Owner will issue keys to existing mechanical/electrical equipment spaces.
- B. Return keys at end of each work day; request keys on succeeding days, if necessary.

PART 2 - PRODUCTS

2.1 MATERIALS
- A. Type and Quality of Existing Products: Use products or types of construction that exist in structure, as needed to patch, extend, or match existing Work.
  - 1. Generally, Contract Documents do not define products or standards of workmanship present in existing construction.
  - 2. Determine by inspecting and testing products where necessary, referring to existing work as quality standard.
- B. New Materials: Comply with Specifications for each product involved.
  - 1. Match existing products and work for patching existing work.
- C. Materials for Temporary Fire-Rated Partitions: Comply with provisions of Division 01 Section “Temporary Facilities and Controls.”
- D. Salvaged Materials: Salvage sufficient quantities of cut or removed material to replace damaged Work of existing construction, when material is not readily obtainable on current market.
  - 1. Store salvaged items in dry, secure place on site.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. Comply with provisions of Section 017000.
  - 1. Verify that areas are ready for alteration and remodeling.
- B. Discrepancies: Verify dimensions and elevations indicated in layout of existing work.
  - 1. Prior to commencing work, carefully compare and check Contract Documents for discrepancies in locations or elevations of work to be executed.
  - 2. Refer discrepancies among Drawings and existing conditions to Architect for adjustment before work affected is performed.

3.2 PREPARATION
- A. Construct temporary fire-rated partitions to separate existing occupied areas from construction and alteration areas. Comply with provisions of Division 01 Section “Temporary Facilities and Controls.”
- B. Cut, move, or remove items as necessary for access to alteration and renovation Work.
  - 1. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, deteriorated masonry and concrete, and other deteriorated materials. Replace materials as specified for finished Work.
  - 2. Remove debris and abandoned items from area and from concealed spaces.
- C. Cutting and Removal: Perform cutting and removal work to remove minimum necessary, and in manner to avoid damage to adjacent work. Cut finish surfaces such as masonry, tile, plaster, or metals by methods to terminate surfaces in straight line at natural point of division.
- D. Prepare surface and remove surface finishes as necessary to provide for proper installation of new materials and finishes.
- E. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.
- F. Provide temporary barriers and closures to control operations to prevent spread of dust to occupied portions of building; refer to Section 01 5000.

3.3 INSTALLATION
- A. Coordinate Work of alterations and renovations to expedite completion and to accommodate Owner occupancy.
- B. Remove, cut, and patch Work in manner to minimize damage and to provide means of restoring products and finishes to specified condition.
  - 1. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- C. Install products as specified in individual Specification sections.

D. Where new Work abuts or aligns with existing, perform smooth and even transition to match existing adjacent surface in texture and appearance.
   1. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and request instructions from Architect as to method of making transition.

3.4 ADJUSTMENTS
A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to provide smooth plane without breaks, steps, or soffits.
B. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
C. Fit Work at penetrations of surfaces as specified in Section 017000.
D. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections. Repair substrate prior to application of finishes.

3.5 FINISHES
A. Finish new surfaces as specified in individual Specification sections.
B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.6 CLEANING
A. Comply with Section 017700. Thoroughly clean areas and spaces affected by Work. Completely remove paint, mortar, oils, putty and items of similar nature.
B. Clean Owner-occupied areas daily. Clean spillage, overspray, and heavy collection of dust in Owner-occupied areas immediately.

END OF SECTION

SECTION 014000

QUALIT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Submittals.
- B. References and standards.
- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Mock-ups.
- F. Tolerances.
- G. Manufacturers' field services.
- H. Defect Assessment.

1.2 RELATED REQUIREMENTS
- A. Section 014216 - Definitions.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. 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. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
- 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.
- D. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
  1. 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.
  2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- 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.

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

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
C. Obtain copies of standards where required by product specification sections.
D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.5 TESTING AND INSPECTION AGENCIES AND SERVICES
A. Contractor shall employ and pay for services of an independent testing agency to perform other 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

3.1 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.

3.2 MOCK-UPS
A. Apply finish materials to demonstrate the proposed rangte of materials, colors, and workmanship.
B. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
C. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
D. Accepted mock-ups shall be a comparison standard for the remaining Work.
E. 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.

3.3 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.

3.4 TESTING AND INSPECTION
A. See individual specification sections for testing and inspection required.
B. 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.

C. 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.

D. 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.

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

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

3.5 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.

3.6 DEFECT ASSESSMENT

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

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 014100

REGULATOR REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:

1. ATBCB ADAAG - Americans with Disabilities Act Accessibility Guidelines, 2010 edition.
2. 29 CFR 1910 - Occupational Safety and Health Standards, current edition; as a work place.
3. ICC/ANSI A117.1 and Federal Fair Housing.
4. ICC (IFC) - ICC International Fire Code, latest edition adopted.
5. ICC (IBC) - ICC International Building Code, latest edition adopted.
6. ICC (IPC) - ICC International Plumbing Code, latest edition adopted.
7. ICC (IMC) - ICC International Mechanical Code, latest edition adopted.
8. ICC (IFGC) - ICC International Fuel Gas Code,
9. IECC (IECC) - International Energy Conservation Code, latest edition adopted.
10. Erosion and Sedimentation Control Regulations: Local jurisdiction.
11. NFPA 70 - National Electrical Code, latest edition adopted.
12. NFPA 101 - Life Safety Code, latest edition adopted.
13. Regulatory requirements as described in each specification Section.
14. Texas Accessibility Standards (for projects with state of Texas).

1.2 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 014216

DEFINITIONS

PART 1 GENERAL

1.1 SUMMARY
- A. This section supplements the definitions contained in the General Conditions.
- B. Other definitions are included in individual specification sections.

1.2 DEFINITIONS
- A. Day: Business/working day.
- B. Furnish: To supply, deliver, unload, and inspect for damage.
- C. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- D. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 015000

TEMPORAR FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.
- G. Project identification sign.
- H. Field offices.

1.2 RELATED REQUIREMENTS
- A. A. NFPA 241: Standard For Safeguarding Construction, Alteration, and Demolition Operations". www.nfpa.org.

1.3 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.

1.4 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.

1.5 BARRIERS
- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.6 FENCING
- A. Construction: Commercial grade chain link fence.
- B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.7 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.

1.8 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.

1.9 VEHICULAR ACCESS AND PARKING
- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.
E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.10 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.

1.11 PROJECT IDENTIFICATION
A. Provide a project identification sign of design and construction as approved by Architect. Submit proposed design for review prior to fabrication.
B. Erect on site at location established by Architect.
C. No other signs are allowed without Owner permission except those required by law.

1.12 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. 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 016000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. General product requirements.
- B. Sustainable design-related product requirements.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS
- A. Section 017419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.3 SUBMITTALS
- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
  - 1. Submit within 15 days after date of Agreement.
  - 2. For products specified only by reference standards, list applicable reference standards.
- B. 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.
- C. 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.
- D. 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.
- E. Sustainable Design Submittals: Items necessary to document use of sustainable construction materials, products, and practices.
  - 1. No Red List materials per Living Building Challenge are permitted on the Project.

1.4 QUALITY ASSURANCE
- A. Sustainably Harvested Wood: Solid wood, wood chips, and wood fiber certified or labeled by an organization accredited by one of the following:
  - 1. The Forest Stewardship Council, The Principles for Natural Forest Management; for Canada visit http://www.fsccanada.org, for the USA visit http://www.fscus.org.
  - 2. Acceptable Evidence: Copies of invoices bearing the certifying organization's certification numbers.

PART 2 PRODUCTS

2.1 NEW PRODUCTS
- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Where other criteria are met, Contractor shall give preference to products that:
  - 1. Are extracted, harvested, and/or manufactured closer to the location of the project.
  - 2. Have longer documented life span under normal use.
  - 3. Result in less construction waste. See Section 017419
  - 4. Are made of vegetable materials that are rapidly renewable.
  - 5. Are made of recycled materials.

2.2 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.

2.3 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

3.1 SUBSTITUTION PROCEDURES
A. Comply with requirements specified in this section. Substitutions shall be considered for comparable product(s) which have the indicated qualities or basis-of-design characteristics related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of the specified product(s).
B. Architect will consider requests for substitutions only within 15 days after date of Agreement.
C. Substitutions will be considered when a product becomes unavailable through no fault of the Contractor.
D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
E. A request for substitution 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.
2. Will provide the same warranty for the substitution as for the specified product.
3. Will 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.
F. Substitutions will not be considered at any time, when they are indicated or implied on shop drawing or product data submittals, without separate written request on form hereto attached, or when acceptance will require revision to the Contract Documents.
G. Substitution Submittal Procedure:
1. Submit one PDF of request for substitution for consideration. Limit each request to one proposed substitution. Submit on form at the end of this Section.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. The Architect will notify Contractor in writing of decision to accept or reject request.
4. If substitution is not acceptable, Contractor will provide specified product (s).

3.2 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.

3.3 STORAGE AND PROTECTION
A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 017419.
B. Store and protect products in accordance with manufacturers' instructions.
C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
E. For exterior storage of fabricated products, place on sloped supports above ground.
F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
G. Comply with manufacturer's warranty conditions, if any.
H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
I. Prevent contact with material that may cause corrosion, discoloration, or staining.
J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 017000

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Examination, preparation, and general installation procedures.
- B. Pre-installation meetings.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.
- F. Starting of systems and equipment.
- G. Demonstration and instruction of Owner personnel.
- H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- I. General requirements for maintenance service.

1.2 SUBMITTALS
- A. See Section 013000 - 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.
  6. Include in request:
     - a. Identification of Project.
     - b. Location and description of affected work.
     - c. Necessity for cutting or alteration.
     - d. Description of proposed work and products to be used.
     - e. Effect on work of Owner or separate Contractor.
     - f. Written permission of affected separate Contractor.
     - g. Date and time work will be executed.
- E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.3 QUALIFICATIONS
- A. 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,
- B. 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.
- C. 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.

1.4 PROJECT CONDITIONS
- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. 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.
- F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
  1. Minimize amount of bare soil exposed at one time.
  2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
  3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
  4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- J. 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.

1.5 COORDINATION
- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS
- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 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.

3.2 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.

3.3 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 electronic copies to Architect, Owner, participants, and those affected by decisions made.

3.4 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 a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
H. 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.
I. Periodically verify layouts by same means.
J. Maintain a complete and accurate log of control and survey work as it progresses.
K. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

3.5 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.

3.6 CUTTING AND PATCHING
A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
1. Repairing includes:

a. Replacing defective parts
b. Refinishing damaged surfaces
c. Touching up with matching materials
d. Properly adjusting operating equipment.

B. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
C. Whenever possible, execute the work by methods that avoid cutting or patching.
D. 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.
E. 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.
F. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
H. Restore work with new products in accordance with requirements of Contract Documents.
I. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.
K. 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.

3.7 PROGRESS CLEANING
A. Dispose of materials lawfully.
1. Containerize hazardous and sanitary waste materials separately from other waste.
2. Mark containers appropriately and dispose of legally, according to regulations.
B. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
D. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
E. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
F. F. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

3.8 **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. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.
G. 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.
H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.9 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. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION
A. See Section 017900 - Demonstration and Training.

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

3.12 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, 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. Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report and provide to Owner with a copy of warranty.

3.13 SUBSTANTIAL COMPLETION
A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), identify the value of items on the list, and reasons why the Work is not complete. Include an expected date of completion.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs and photographic negatives, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records, if any.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.

14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Architect and Owner.
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. Accompany Project Coordinator on Contractor's preliminary final inspection.
H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
I. 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 017800

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.2 RELATED REQUIREMENTS
- A. Section 013000 - 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.

1.3 SUBMITTALS
- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
  2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
  3. 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.
  4. 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

3.1 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 Drawingsand Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.2 OPERATION AND MAINTENANCE DATA
A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES
A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
D. Additional information as specified in individual product specification sections.
E. 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.

3.4 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS
A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.
B. 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.
C. 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.
D. Provide servicing and lubrication schedule, and list of lubricants required.
E. Include manufacturer's printed operation and maintenance instructions.
F. Include sequence of operation by controls manufacturer.
G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
H. Additional Requirements: As specified in individual product specification sections.

3.5 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 three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Product data, shop drawings, and other submittals.
      c. Operation and maintenance data.
      d. Field quality control data.
      e. Photocopies of warranties and bonds.
   4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.6 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.
E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 017900

DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 SUMMARY
- A. Demonstration of products and systems to be commissioned and 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. Roofing, waterproofing, and other weather-exposed or moisture protection products.
  2. Finishes, including flooring, wall finishes, ceiling finishes.
  3. Fixtures and fittings.
  4. Items specified in individual product Sections.

1.2 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures; except:
- B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
  1. Submit to Commissioning Authority for review and inclusion in overall training plan.
  2. Submit not less than four weeks prior to start of training.
  3. Revise and resubmit until acceptable.
  4. Provide an overall schedule showing all training sessions.
  5. Include at least the following for each training session:
     - a. Identification, date, time, and duration.
     - b. Description of products and/or systems to be covered.
     - c. Name of firm and person conducting training; include qualifications.
     - d. Intended audience, such as job description.
     - e. Objectives of training and suggested methods of ensuring adequate training.
     - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
     - g. Media to be used, such a slides, hand-outs, etc.
     - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. 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.
- D. 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.
  4. Include Commissioning Authority's formal acceptance of training session.

1.3 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

3.1 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.

3.2 TRAINING - GENERAL

A. Commissioning Authority will prepare the Training Plan based on draft plans submitted.
B. Conduct training on-site unless otherwise indicated.
C. Owner will provide classroom and seating at no cost to Contractor.
D. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.
E. Provide training in minimum two hour segments.
F. The Commissioning Authority is responsible for determining that the training was satisfactorily completed and will provide approval forms.
G. 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.
H. 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.
I. 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.

J. 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 024100

DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Selective demolition of building elements for alteration purposes.

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

1.3 SUBMITTALS
- A. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
- B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.4 QUALITY ASSURANCE

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.1 SCOPE
- A. Remove portions of existing buildings as indicated to perform overall scope of Work.
- B. Remove paving and curbs as required to accomplish new work.
- C. Within area of new construction, remove foundation walls and footings to a minimum of 2 feet below finished grade.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS
- A. Comply with other requirements specified in Section 017000.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  1. Obtain required permits.
  2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  3. Provide, erect, and maintain temporary barriers and security devices.
  4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- 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. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- F. Perform demolition in a manner that maximizes salvage and recycling of materials.
  1. Dismantle existing construction and separate materials.
  2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.3 EXISTING UTILITIES
- A. Protect existing utilities to remain from damage.
- B. 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.
- C. 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.
- D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- E. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.4 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

B. 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 that are to remain in operation; 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.

C. Protect existing work to remain.

1. Repair adjacent construction and finishes damaged during removal work.

3.5 DEBRIS AND WASTE REMOVAL

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

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

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

END OF SECTION

SECTION 030516

UNDERSLAB VAPOR BARRIER

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Sheet vapor barrier under concrete slabs on grade.

1.2 REFERENCE STANDARDS
- A. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs 2018a.
- B. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs 2017 (Reapproved 2023).

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products.
- C. Samples: Submit samples of underslab vapor barrier to be used.
- D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction.

PART 2 PRODUCTS

2.1 MATERIALS
- A. Underslab Vapor Barrier:
  1. Water Vapor Permeance: Not more than 0.010 perms, maximum.
  2. Complying with ASTM E1745 Class A.
  3. Thickness: 15 mils.
  4. Acceptable Product:
     - a. Stego Industries LLC; Stego Wrap Vapor Barrier (15-mil): www.stegoindustries.com/#sle.
     - b. Substitutions: See Section 016000 - Product Requirements.
- B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that surface over which vapor barrier is to be installed is complete and ready before proceeding with installation of vapor barrier.

3.2 INSTALLATION
- A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.
- B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.
- C. Lap joints minimum 6 inches.
- D. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.
- E. No penetration of vapor barrier is allowed except for reinforcing steel and permanent utilities.
- F. Repair damaged vapor retarder before covering with other materials.

END OF SECTION

SECTION 03 10 00

CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for providing concrete formwork, shoring and reshoring for cast-in-place concrete, and installation of items furnished by others, including anchor bolts, setting plates, bearing plates, anchorages, inserts, frames, nosings and other items to be embedded in concrete.

B. Related Sections:

1. Concrete reinforcing is specified in Section 03 20 00.

2. Cast-in-place concrete is specified in Section 03 30 00.

1.02 SUBMITTALS

A. General: Comply with Section 01 33 00.

B. Product Data: Manufacturer's product data and installation instructions for proprietary materials, including form liners and release agents, manufactured form systems, ties and accessories.

C. Shop Drawings: Show general construction of forms including jointing, special formed joints or reveals, location and pattern of form tie placement, and other items affecting exposed concrete. Include details of inserts and anchorages.

1.03 QUALITY ASSURANCE

A. Concrete formwork shall comply with ACI 318.

B. Allowable Tolerances: Design, construct, set, and maintain the formwork to ensure completed work meets the suggested tolerance limits specified in ACI 347.

C. Placement:

1. Before placement, check lines and levels of erected formwork. Make corrections and adjustments to ensure proper size and location of concrete members and stability of forming systems.

2. During placement, check formwork and related supports to ensure that forms are not displaced and that completed work will be within specified tolerances.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

A. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed, plywood-faced or other panel type materials providing as-cast surfaces.

1. Furnish in largest sizes to minimize number of joints and to conform to joint system shown on drawings.

2. Provide form material with sufficient thickness to withstand pressure of placed concrete without bow or deflection beyond allowable tolerances.

3. Use overlaid plywood, APA grade trademarked "Medium Density Overlay Plyform Exterior," or new or reused BB plywood.

B. Earth Forms: Unless otherwise indicated or required, concrete for footings may be placed directly against vertical

excavated surfaces, provided the material will stand without caving, that minimum reinforcing steel clearances indicated are maintained, and suitable provisions are taken to prevent raveling of top edges or sloughing of loose material from walls of excavation. Sides of excavation shall be made with a neat cut and the width made as indicated. Concrete which is exposed to view on exterior shall be formed to a minimum depth of 6-inches below finished grade.

C. Wood Forms: Industry standard foundation forms.

D. Cylindrical Forms:

1. Heavy glass-fiber reinforce plastic or galvanized steel sheets.

2. Butt sections together, with bolted or keyed joints.

3. Finish interior joints of forms smooth so there is no visible seam on finished concrete surfaces.

E. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent deflection, and to prevent spalling concrete surfaces upon removal.

1. Unless otherwise shown, provide ties so that portion remaining within concrete after removal of exterior parts is 1-inch from outer concrete surface.

2. Unless otherwise indicated, provide form ties which will leave a hole not larger than 1-inch diameter in concrete surface.

3. Form ties fabricated on project site and wire ties are not acceptable.

F. Form Coating: Commercial formulation release agent that will not bond with, stain, nor adversely affect concrete surfaces; will not impair subsequent treatment of concrete surfaces requiring bond or adhesion, nor impede wetting of surfaces to be cured with water or curing compounds. Form release agent shall be VOC compliant.

G. Inserts: Metal inserts for anchorage of materials or equipment to concrete construction, not supplied by other trades and required for work.

1. Adjustable wedge inserts of malleable cast iron, complete with bolts, nuts and washers; 3/4-inch bolt size unless otherwise indicated.

2. Threaded inserts of malleable cast iron, furnished complete with full-depth bolts; 3/4-inch bolt size, unless otherwise indicated.

3. Sheet metal reglets formed of same type and gauge as flashing metal to be built into reglets, unless otherwise indicated. Fill reglet or cover face opening to prevent intrusion of concrete or debris.

2.02 DESIGN OF FORMWORK

A. General: Comply with ACI 318.

B. Design, erect, support, brace and maintain formwork so that it will safely support vertical and lateral loads, until such loads can be supported by concrete structure.

1. Carry vertical and lateral loads to ground by formwork system and in-place construction that has attained adequate strength.

2. Design forms and falsework to include assumed values of live load, dead load, weight of moving equipment operated on formwork, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to safety of structure during construction.

3. Design formwork to be removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

C. Fabricate formwork to prevent leakage of cement paste during concrete placement. Solidly butt joints and provide backup material as required to prevent leakage and fins. Ridges, depressions, or fins at form joints exposed to view in the completed work will not be acceptable.

PART 3 - EXECUTION

3.01 FORM CONSTRUCTION

A. General:

1. Construct forms to sizes, shapes, lines and dimensions shown and required to obtain accurate location, grades, level and plumb work.

2. Provide for openings, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required.

3. Select materials to obtain required finishes.

B. Fabricate forms for easy removal without hammering or prying against concrete surfaces.

1. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces.

2. Provide top forms for inclined surfaces where slope is too steep to place concrete.

3. Kerf wood inserts for forming keyways, reglets, and recesses, to prevent swelling and allow easy removal.

C. Provide temporary openings where interior area of formwork is inaccessible for cleanout, inspection before concrete placement, and placement of concrete.

1. Brace temporary closures and set tightly to forms to prevent loss of concrete mortar.

2. Locate temporary openings on forms in as inconspicuous location as possible.

3. Form intersecting planes to provide true, clean-cut corners, with edge grain of plywood not exposed as form for concrete.

D. Falsework: Erect falsework and support, brace, and maintain to safely support loads applied until such loads can be supported by in-place concrete structures.

E. Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing, using wedges or jacks or a combination. Provide trussed supports when adequate foundations for shores and struts cannot be secured.

F. Support form facing materials with structural members spaced to prevent deflection.

1. Provide camber in formwork as required for anticipated deflections due to weight and pressure of fresh concrete and construction loads for long span members without intermediate supports.

2. Inspect falsework and formwork during and after concrete placement to determine abnormal deflection or signs of failure; make necessary adjustments to produce work of required dimension.

G. Forms for Exposed Concrete:

1. Drill forms to suit form ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes.

2. Do not use metal cover plates for patching holes or defects in forms.

3. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections.

4. Use extra studs, walers and bracing to prevent bowing of forms between studs.

5. Assemble forms so they may be readily removed without damage to exposed concrete surfaces.

6. Form molding shapes, recesses and projections with smooth-finish materials, and install in forms with sealed joints to prevent displacement.

7. Joints in formwork shall be abutted flush. Ridges, depressions, or fins at form joints will not be acceptable. Do not use form tape which creates ridges in the finished surface.

H. Corner Treatment: Form exposed corners of beams and columns to produce square, smooth, solid, unbroken lines, except as otherwise indicated.

1. Form chamfers with 3/4-inch x 3/4-inch strips, unless otherwise indicated, accurately formed and surfaced to produce uniformly straight lines and tight edge joints. Extend terminal edges to required limit and miter chamfer at changes in direction.

2. Unexposed corners may be formed either square or chamfered.

I. Provisions for Other Work:

1. Provide openings in formwork to accommodate work of other Sections, including those under separate contract (if any).

2. Size and location of openings, recesses and chases are responsibility of Section requiring such items.

3. Accurately place and securely support items to be built into forms.

J. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces. Remove chips, wood, sawdust, dirt and other debris just before concrete is to be placed.

3.02 FORM COATINGS

A. Coat form contact surfaces with form release agent before reinforcement is placed.

1. Do not allow excess material to accumulate in forms or to come into contact with reinforcement or surfaces which will be bonded to fresh concrete.

2. Apply in compliance with manufacturer's instructions.

B. Coat steel forms with non-staining, rust-preventative release agent or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

3.03 INSTALLATION OF EMBEDDED ITEMS

A. General:

1. Set and built into work, anchorage devices and other embedded items attached to, or supported by, cast-in-place concrete.

2. Use setting drawings, diagrams, instructions and directions furnished by suppliers of items to be attached.

B. Edge Forms and Screed Strips:

1. Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours.

2. Provide and secure units to support types of screeds required.

B. Conduits and Pipes Embedded in Concrete: Comply with ACI 318, Section 20.7.

3.04 SHORES AND SUPPORTS

A. Comply with ACI 318, Section 26.11 for shoring and reshoring in multistory construction, and as specified.

B. Extend shoring at least 3-floors under floor or roof being placed for structures over 4-stories.

1. Shore floor directly under floor or roof being placed, so that loads from construction above will transfer directly to these shores.

2. Space out shoring in stories below this level so that no floor or member will be excessively loaded or will induce tensile stress in concrete members where no reinforcing steel is provided.

3. Extend shores beyond minimum if required to ensure proper distribution of loads throughout structure.

C. Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support work without excessive stress or deflection.

D. Keep reshores in place a minimum of 15-days after placing upper tier, or until concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.

3.05 REMOVAL OF FORMS

A. General: Comply with ACI 318, Section 26.11.

B. Formwork not supporting concrete, such as sides of beams, walls, columns, and similar items may be removed after curing at not less than 50-deg. F. for 24-hours after placing concrete; provided concrete is sufficiently hard to not be damaged by form removal operations and curing and protection operations are maintained.

C. Formwork supporting weight of concrete, such as beam soffits, joists, slabs and other structural elements may not be removed until concrete has attained design minimum 28-day compressive strength.

1. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members, as specified in Section 03 33 00.

2. Form facing material may be removed 4-days after placement, only if shores and other vertical supports have been arranged to permit removal without loosening or disturbing shores and supports.

3.06 RE-USE OF FORMS

A. Clean and repair surfaces of forms to be re-used in work.

1. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable.

2. Apply new form release agent material to concrete contact surfaces as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints.

1. Align and secure joints to avoid offsets.

2. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for providing concrete reinforcement.

B. Related Sections:

1. Concrete forming is specified in Section 03 11 00.

2. Cast-in-place concrete is specified in Section 03 30 00.

3. Reinforcement for masonry is specified in Section 04 22 00.

1.02 SUBMITTALS

A. General: Comply with Section 01 33 00.

B. Product Data: Manufacturer's product data, specifications, and installation instructions for proprietary materials and accessories.

C. Mill Certificates: Steel producer's certificates of mill analysis, tensile and bend tests for reinforcing steel.

D. Shop Drawings: For fabrication, bending, and placement of reinforcing.

1. Comply with ACI 315.

2. Show bar schedules, stirrup spacing, diagrams of bent bars, arrangements and assemblies, as required for fabrication and placement.

1.03 QUALITY ASSURANCE

A. Concrete reinforcement shall comply with ACI 318, Chapter 20

B. Welding procedures, welding operators and welders shall be qualified in accordance with AWS D1.4. Welders whose work fails to pass inspection shall be requalified before proceeding further welding.

1.04 DELIVERY, STORAGE AND HANDLING

A. General: Comply with Section 01 61 00.

B. Deliver reinforcement to Project site bundled, tagged and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on shop drawings.

C. Store materials to prevent damage and accumulation of dirt or excessive rust.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Reinforcing Bars: ASTM A615, deformed, Grade 60, ASTM A706 Deformed Grade 60.

B. Reinforcement for Spirals: ASTM A82.

C. Bars for Welded Splices: ASTM A706, low-alloy steel.

D. Steel Wire: ASTM A82.

E. Deformed Wire: ASTM A496.

F. Welded Smooth Wire Fabric: ASTM A185.

G. Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.

1. Use wire bar type supports complying with CRSI recommendations, unless otherwise indicated. Do not use wood, brick, and other unacceptable materials.

2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

3. For exposed to view concrete surfaces, where legs of supports are in contact with forms, provide supports with either plastic protected or stainless steel protected legs, at Contractor's option.

4. Over waterproof membranes, use precast concrete block bar supports to prevent penetration of the membrane.

2.02 FABRICATION

A. General:

1. Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication tolerances complying with ACI 318, Chapter 20.

2. In case of fabricating errors, do not re-bend or straighten reinforcing in a manner that will weaken the material.

3. Unacceptable Materials: Reinforcement with one of the following defects will not be permitted in the work:

a. Bar lengths, depths and bends exceeding CRSI fabrication tolerances.

b. Bends or kinks not indicated.

c. Bars with reduced cross-section due to excessive rusting.

2.03 SOURCE QUALITY CONTROL

A. The Owner's Testing Laboratory will collect mill test reports for reinforcement.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with referenced codes and standards.

1. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.

2. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.

3. Place reinforcement to obtain minimum concrete coverage specified in ACI 318, Section 20.6.

4. Ensure bar spacing meets requirements of ACI 318, Section 25.2.

5. Arrange, space, and securely tie bars and bar supports together with 16-gauge wire to hold reinforcement in position during concrete placement operations.

6. Set wire ties so that twisted ends are away from exposed concrete surfaces.

B. Provide sufficient numbers of supports of strength to carry reinforcing.

1. Do not place reinforcing bars more than 2-inches beyond the last leg of continuous bar supports.

2. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

C. Splices: Splice bars by lapping ends and tightly wire tying. Minimum lap of spliced bars shall be as indicated.

D. End splices in vertical reinforcing for No. 11 bars and larger may be made using a mechanical friction device which provides positive alignment during placement. Comply with manufacturer's directions for bar preparation and installation of clamping devices.

E. Welding:

1. Comply with requirements of AWS D1.4 for field welding.

2. Prior to field welding, determine weldability of reinforcing bars by laboratory chemical analysis of steel.

3. Only steel conforming to chemical requirements specified in AWS D12.1 may be welded.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for providing cast-in-place concrete.

B. Related Sections:

1. Concrete floor sealer is specified in Section 03 05 00.

2. Concrete forming is specified in Section 03 11 00.

3. Concrete reinforcing is specified in Section 03 20 00.

4. Below grade vapor retarders are specified in Section 07 26 16.

1.02 SUBMITTALS

A. General: Comply with Section 01 33 00.

B. Product Data: Manufacturer's product data, specifications with application and installation instructions for proprietary materials and items, including admixtures, bonding agents, waterstops, joint systems, chemical floor hardeners, and dry shake finish materials.

C. Samples: Samples of specified materials if requested by Architect. Include names, sources and descriptions.

D. Laboratory Test Reports: Laboratory test reports for concrete materials, mix design tests.

E. Material Certificates: Furnish materials certificates in lieu of laboratory test reports when permitted by Architect. Material certificates shall be signed by material producer and Contractor, certifying that each material item complies with, or exceeds specified requirements.

F. Delivery Tickets: Furnish copies of delivery tickets for each load of concrete delivered to site. Provide information specified.

1.03 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Materials and execution shall be in accordance with CBC Chapter 19 and ACI 318 the Referenced Standards.

B. Concrete construction shall comply with ACI 117 Manual of Concrete Practice. A copy of this publication shall be kept in the field office during concrete construction.

C. Concrete Testing Service:

1. Contractor shall employ a testing laboratory experienced in design and testing concrete materials and mixes to perform material evaluation tests and to design concrete mixes. Person taking the tests shall be an ACI Field Technician Grade 1.

2. Materials and installed work may require testing and retesting, as directed by Architect, during progress of work.

a. Allow access to material stockpiles and facilities.

b. Tests, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

D. Tests for Concrete Materials:

1. For normal weight concrete, test aggregates by methods of sampling and testing of ASTM C33.

2. For lightweight concrete, test aggregates by methods of sampling and testing of ASTM C330.

3. For portland cement, sample cement and determine chemical and physical properties by methods of test of ASTM C150.

4. Submit written reports to Architect, for each material sampled and tested, prior to start of work.

5. Certificates of material properties and compliance with specified requirements may be submitted in lieu of testing, when acceptable to Architect. Certificates of compliance shall be signed by materials producer and Contractor.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Comply with Section 01 61 00.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type II unless otherwise approved. Use only one brand of cement for each required type throughout Project, unless otherwise approved by Architect.

B. Fly Ash: ASTM C618, Class F. Sampling and testing of fly ash shall be in accordance with ASTM C311.

C. Normal Weight Aggregates: ASTM C33 and as specified.

D. Lightweight Aggregates: ASTM C330.

E. Water: Clean, fresh, drinkable.

F. Admixtures:

1. Water Reducing Admixture: ASTM C494; Euclid Chemical Co. "Eucon WR-75", Master Builders "Pozzolith 200N", Sika Chemical Corp. "Plastocrete 160" or approved equal.

2. Water Reducing, Retarding Admixture: ASTM C494; Euclid Chemical Co. "Eucon Retarder-75", Master Builders "Pozzolith 100XR", Sika Chemical Corp. "Plastiment" or approved equal.

3. High Range Water Reducing Admixture: ASTM C494 Type F or G; Euclid Chemical Co. "Eucon 37", Sika Chemical Corp. "Sikament" or approved equal.

4. Air Entraining Admixture: ASTM C260.

5. Non-Corrosive, Non-Chloride Accelerator: ASTM C494, Type C or E; Euclid Chemical Co. "Accelguard 80" or approved equal. The admixture manufacturer shall have long-term non-corrosive test data from an independent testing laboratory using an acceptable accelerated corrosion test method such as that using electrical potential measures.

6. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05-per-cent chloride ions are not permitted.

2.02 RELATED MATERIALS

A. Non-Shrink Structural Grout: Pre-packaged, non-metallic, non-gaseous, non-shrink when tested in accordance with ASTM C1107, Grade C at fluid (flow cone) consistency of 20- to 30-seconds. Grout shall attain 7,500-psi compressive strength in 28-days at specified flow and shall not bleed. Euclid Chemical Co. "Hi-Flow Grout", L&M Construction Chemicals "Crystex", Master Builders "Masterflow 928" or approved equal.

B. Evaporation Retarder: Euclid Chemical Co. "Euco-Bar", L&M Construction Chemicals "E-Con", Master Builders "Confilm" or approved equal. Use to prevent plastic shrinkage drying cracks in rapid moisture loss conditions.

2.03 PROPORTIONING AND DESIGN OF MIXES

A. Develop mix proportions in accordance with ACI 318, CHPT 5.

1. Proportioning on the basis of field experience or trial mixes shall comply with CBC Section 1905.3.

2. Proportioning without field experience or trial mixtures is not allowed.

B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 15-percent.

C. Submit written reports to Architect of each proposed mix for each type of concrete at least 15-days prior to start of work. Do not begin concrete production until mixes have been reviewed.

D. Admixtures:

1. Concrete shall contain the specified water-reducing or water-reducing retarding admixture and/or high-range water-reducing admixture. Concrete required to be air-entrained shall contain and approved air-retraining admixture. Pumped concrete, concrete for industrial slabs, fiber concrete, architectural concrete, concrete required to be watertight, and concrete with a water-cement ratio below 0.50 shall contain water-reducing admixture.

E. Concrete Types: Concrete Strengths (all normal weight). Shall be per the plans

F. Slump Limits: Concrete containing high-range water-reducing admixture shall have a maximum slump of 9-inches unless otherwise approved by the Architect. The concrete shall batch at a slump of 2- to 3-inches, be verified, then the high-range water-reducing admixture added to increase the slump to the approved level. All other concrete shall have a slump of 4-inches for slabs and 4-inches for other members, (+) or (-) 1”

G. Chloride ion content of aggregates of constituents shall be tested by the laboratory when directed by the Architect. The total chloride ion content of the mix including all constituents shall not exceed 0.03-percent or 0.56-percent or 0.075-percent chloride ions by weight of cement.

2.04 RESTORATION MATERIALS

A. Bonding Agent: ASTM C1059, Type II; Euclid Chemical Co. "Flex-Con", L&M Construction Chemicals "Everbond", Master Builders "Acryl-Set" or approved equal.

B. Structural Bonding Epoxy Adhesive: Two-component, 100-percent solids, 100-percent reactive compound suitable for use on dry or damp surfaces; Euclid Chemical Co. "Euco Epoxy #452MV or #620", Sika Chemical Corp. "Sikadur Hi-Mod" or approved equal.

C. Overhead Repair Mortar: L&M Construction Chemicals "Durapatch VOH" or approved equal.

D. Self-Leveling Cementitious Underlayment: Ardex "Ardex K-15", L&M Construction Chemicals "Levelex" or approved equal.

2.05 CONCRETE CURING MATERIALS

A. Liquid Membrane Forming Curing Compounds:

1. Dissipating Resin Curing Compound: VOC compliant, clear, water-based resin, complying with ASTM C309, Type 1 (or 1D with dye), Class B; Euclid Chemical Company "Kurez VOX", L&M Construction Chemicals "L&M Cure R" or approved equal. Use in areas to receive subsequently-applied flooring.

2.06 SOURCE QUALITY CONTROL

A. The Owner's Testing Laboratory will:

1. Review mix designs and certificates of compliance for materials Contractor proposes to use.

2. Inspect batch plant to verify plant quality controls are adequate. Obtain sample of aggregates when it appears they may not conform to specified requirements.

PART 3 - EXECUTION

3.01 PREPARATION

A. Preplacement Inspection:

1. Before placing concrete, inspect formwork, reinforcing steel, and items to be embedded or cast-in.

2. Moisten wood forms immediately before placing concrete where form coatings are not used.

3. Soil at bottom of foundation systems is subject to testing for soil bearing value by the testing laboratory. Place concrete immediately after approval of excavations.

4. Coordinate installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

3.02 CONCRETE MIXING

A. Measurement: Materials for concrete shall be measured by weighing the aggregates and cement using equipment that is suitable, designed and constructed for this purpose. Each size of aggregate and the cement shall be weighed separately. The accuracy of measuring devices shall be such that quantities be measured to within the following percentages of the desired amount: 1-percent for cement and water, 2-percent for aggregates, 3-percent for admixtures. Mixing water and admixtures shall be measured by volume.

B. Mixing: All concrete shall be ready-mixed and delivered in accordance with ACI 318, Chapter 5. Deposit concrete into final position within one-hour of introduction of mixing water.

3.03 CONCRETE PLACEMENT

A. Placing Record: Record time and date of casting concrete in units of building; maintain record open to inspection.

B. General: Place concrete in compliance with ACI 318, Chapter 5, and as specified.

1. Deposit concrete continuously or in layers so that concrete will not be placed on concrete which has hardened sufficiently to cause formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete as nearly as possible to its final location to avoid segregation.

2. Screed concrete to receive other construction to proper level to avoid excessive skimming or grouting.

3. Do not use concrete which becomes non-plastic and unworkable, does not meet required quality control limits, or which has been contaminated by foreign materials.

4. Do not retemper concrete.

5. Remove rejected concrete from Project site.

C. Concrete Conveying: Comply with ACI 318, Chapter 5. Handle concrete from point of delivery and transfer to concrete conveying equipment and to locations of final deposit as rapidly as possible by methods to prevent segregation and loss of mix materials.

1. Provide mechanical equipment for conveying concrete to ensure continuous flow at delivery end.

2. Provide runways for wheeled concrete conveying equipment from delivery point to locations of final deposit.

3. Keep interior surfaces of conveying equipment, including chutes, free of hardened concrete, debris, water, snow, ice and other deleterious materials.

D. Placing Concrete into Forms:

1. Deposit in forms in horizontal layers not deeper than 24-inches, in a manner to avoid inclined construction joints.

2. Where placement consists of several layers, place each while preceding layer is still plastic to avoid cold joints.

3. Remove temporary spreaders in forms when concrete placing has reached elevations of spreaders.

4. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Do not vibrate forms and reinforcing.

5. Do not use vibrators to transport concrete inside forms.

a. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of machine.

b. Place vibrators to rapidly penetrate at least 6-inches into preceding layer.

c. Do not insert vibrators into lower layers of concrete that have begun to set.

d. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other items without causing segregation of mix.

E. Placing Concrete Slabs: Deposit and consolidate concrete slabs in continuous operation, within limits of construction joints, until the panel or section is completed.

F. Consolidate concrete during placing operations using mechanical vibrating equipment, so that concrete is thoroughly worked around reinforcement, other embedded items, and into corners.

G. Bring slab surfaces to correct level with a straightedge and strike off.

1. Use bull floats or darbies to smooth surface, leaving it free of humps or hollows.

2. Do not disturb slab surface prior to beginning finishing operations.

H. Maintain reinforcing steel in proper position during concrete placement operations.

I. Bonding: Roughen surface of set concrete at joints, to a minimum amplitude of ¼", and clean surfaces of laitance, coatings, loose particles, and foreign matter. Apply bonding agent when noted on plans.

1. Roughen surfaces to expose bonded aggregate uniformly; leave no laitance, loose particles of aggregate, or damaged concrete at surface.

2. Bond fresh concrete to new concrete that has set but is not fully cured, as follows:

a. At joints between footings and walls or columns, and between walls or columns and beams or slabs they support, and elsewhere unless otherwise specified, dampen, but do not saturate, roughened and cleaned surface of set concrete immediately before placing fresh concrete.

b. At joints in exposed work, at vertical joints in walls, at joints in girders, beams, supported slabs and other structural members, and at joints designed to contain liquids, apply a commercial bonding agent to roughened and cleaned surface of set concrete.

1) Apply commercial bonding agent in accordance with manufacturer's printed instructions.

3. Bond fresh concrete to fully-cured hardened concrete or existing concrete. Before depositing fresh concrete, thoroughly roughen and clean hardened surfaces.

4. Bond curbs and equipment pads to base slabs with bonding agent in accordance with manufacturer's

directions.

5. Topping Slab: Prior to placement of heavy-duty floor topping, the base slab shall be cleaned, saturated surface dry, and a bonding agent approved by the topping manufacturer applied. Place topping in accordance with manufacturer's instructions.

J. Cold Weather Placing: Protect concrete work from damage or reduced strength caused by frost, or low temperatures, in compliance with the requirements of ACI 318, Section 5.12, and as specified.

1. When air temperature has fallen to or is expected to fall below 40-deg. F., uniformly heat water and aggregates before mixing to obtain a concrete placement temperature of not less than 50-deg. F. and not more than 90-deg, F.

2. Maintain concrete at a minimum temperature of 50-deg. F. for not less than 72-hours after placing.

3. Verify that forms, reinforcing steel, and adjacent concrete surfaces are free of frost, before placing concrete.

4. Only the specified non-corrosive non-chloride accelerator shall be used. Calcium chloride, thiocyanates or admixtures containing more than 0.05-percent chloride ions are not permitted.

K. Hot Weather Placing: When hot weather conditions exist that would impair quality and strength of concrete, place in compliance with ACI 318, Section 5.13, and as specified.

1. Cool ingredients before mixing to maintain concrete placement temperature below 90-deg. F. Mixing water may be chilled, or chopped ice may be used provided water equivalent of ice is calculated to total amount of mixing water.

2. Cover reinforcing steel with water-soaked burlap so that steel temperature will not exceed ambient air temperature immediately before embedment in concrete.

3. Fog spray forms, reinforcing steel and subgrade just prior to placing concrete.

4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions.

L. Non-Shrink Grout Placement: Column base plates, equipment bases and other locations indicated shall be grouted with the specified non-shrink grout.

1. Prior to grouting, roughen and clean concrete free of laitance or contaminants.

2. Presoak, saturate surface dry the area to be grouted.

3. Clean plate free of grease, rust, oil or contaminants.

4. Follow ACI guidelines.

5. Place grout in accordance with manufacturer's instructions. Avoid the formation of cold joints or voids.

3.04 JOINTS

A. Construction Joints: Locate and install construction joints as indicated or if not indicated so as to not impair strength and appearance of structure, as approved by Architect. Comply with requirements of CBC Section 1906.4.

1. Provide keyways per plan.

2. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joint, except for slabs on grade.

B. Isolation Joints in Slabs on Ground: Provide at points of contact between slabs on ground and columns, per plan.

C. Control Joints in Slabs on Ground: Provide control joints in slabs on ground to form panels or patterns as indicated. Use inserts 1/8- to 1/4-inch wide x 1/4 of slab depth, unless otherwise indicated.

1. Form control joints by inserting premolded plastic, hardboard or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert.

2. After concrete has cured, remove inserts and clean groove of loose debris.

3. Control joints may be produced by saw cuts 1-inch deep, using powered cutters when concrete has cured sufficiently to carry the machine weight and without dislodging aggregate.

4. Unless otherwise indicated, joint spacing in slabs on grade shall be 24 to 36 times slab thickness.

3.05 FINISH ON FORMED SURFACES

A. Rough Form Finish: Provide as-cast rough form finish to formed concrete surfaces concealed in finish work or by other construction, unless otherwise indicated.

1. Standard rough form finish shall be the texture imparted by the form facing material used, with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4-inch in height rubbed down or chipped off.

B. Smooth Form Finish: Provide as-cast smooth form finish for formed surfaces exposed to view, or that are covered with a coating material applied directly to concrete, or a covering material bonded to concrete such as waterproofing, dampproofing, painting, or similar system.

1. Produce smooth form finish by selecting form material to impart a smooth, hard, uniform texture and arranging them orderly and symmetrically with a minimum of seams.

2. Repair and patch defective areas; remove and smooth fins and other projections.

3.06 MONOLITHIC SLAB FINISHES

A. Floor surfaces shall be within +or- 3/4-inch of finished floor elevations indicated. If variations greater than this exist, the Architect may direct the Contractor to grind the surfaces to bring them within the requirements. Patching of low spots shall not be permitted. Grinding shall be done as soon as possible but not until the concrete is sufficiently strong to prevent dislodging coarse aggregate particles.

B. Scratch Finish: Apply to slab surfaces to receive concrete floor topping or mortar setting beds for tile and other bonded applied cementitious finish flooring material, and as indicated.

1. After placing slabs, plane surface to a tolerance F_F 15 / F_L 13.

2. Slope surfaces uniformly to drains where required.

3. After leveling, roughen surface before final set with stiff brushes, brooms or rakes.

C. Float Finish: Apply to slab surfaces to receive trowel finish and other finishes as specified, and slab surfaces to be covered with membrane or elastic waterproofing and as indicated.

1. After screeding, consolidating, and leveling, do not work surface until ready for floating.

2. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats or hand floats.

3. Consolidate surface with power-driven floats, or by hand-floating.

4. Check and level surface plane to a tolerance F_F 20 / F_L 17.

5. Cut down high spots and fill low spots.

6. Uniformly slope surfaces to drains.

7. Refloat surface to uniform, smooth, granular texture immediately after leveling.

D. Trowel Finish: Apply to slab surfaces exposed to view, unless otherwise indicated, and slab surfaces to be covered with resilient flooring, paint, or other thin-film finish coating system.

1. After floating, begin first troweling using power-driven trowel.

2. Begin final troweling when surface produces ringing sound as trowel is moved over surface.

3. Consolidate concrete surface by final hand troweling, free of trowel marks, uniform in texture and appearance, and with surface plane tolerance F_F 30 / F_L 25.

4. Grind smooth surface defects which would telegraph through applied floor covering system.

E. Trowel and Fine Broom Finish: Where ceramic tile is to be installed with thin-set mortar, apply trowel finish as specified, and immediately follow by slightly scarifying surface with a fine broom.

F. Non-Slip Broom Finish: Apply to exterior concrete platforms, steps, and ramps, and where indicated.

1. Immediately after trowel finishing, slightly roughen concrete surface by brooming in direction perpendicular to main traffic route.

2. Coordinate final finish with Architect before application.

3.07 CONCRETE CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 318, Section 5.11.

B. Cure slabs and other non-formed surfaces using one of the following methods:

1. Application of the specified membrane-forming curing and sealing compound applied in accordance with the manufacturer's instructions immediately after final finishing.

a. Membrane curing compound used in floor slabs receiving applied finish flooring shall be guaranteed by the manufacturer, in writing, not to impair bonding of adhesive.

b. Apply membrane-forming curing compound to damp concrete surfaces as soon as possible after final finishing operations are complete, but no later than 2-hours.

c. Apply uniformly in continuous operation by power spray or rollers in accordance with manufacturer's directions.

d. Recoat areas which are subjected to heavy rainfall within 3-hours after initial application.

e. Maintain continuity of coating and repair damage during curing period.

f. Apply to horizontal surfaces when concrete is dry to touch with power spray or hair broom, in accordance with manufacturer's directions.

C. Submit Concrete Curing procedure to include all methods and materials to be employed to aid in concrete curing at least 15 days prior to placing concrete.

3.08 CONCRETE SURFACE REPAIRS

A. Patch defective areas with specified proprietary patching mortar or cement mortar immediately after removal of forms, when directed by Architect.

1. Cut out honeycomb, rock pockets, and voids over l/4-inch and holes left by tie rods and bolts, down to solid concrete or to a depth of 1-inch.

a. Make edges of cuts perpendicular to concrete surface.

b. Before placing patching mortar, clean, dampen with water, and brush-coat area to be patched with bonding agent.

2. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that when dry, patching mortar will match color of surrounding concrete.

a. Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching.

b. Compact mortar in place and strike off slightly higher than surrounding surface.

B. Repair of Formed Surfaces: Repair exposed-to-view formed concrete surfaces that contain defects impacting finish appearance.

1. Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect.

2. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning.

3. Flush out form tie holes, fill with dry pack mortar, or precast cement plugs secured in place with bonding agent.

4. Repair concealed formed concrete surfaces containing defects that adversely affect durability of concrete. If defects cannot be repaired, remove and replace concrete having defective surfaces.

C. Repair of Slab Surfaces: The Owner's Testing Laboratory may test slab surfaces for conformance with specified floor flatness and levelness values as specified in QUALITY CONTROL DURING CONSTRUCTION Article.

1. Test floor surfaces sloped to drain for trueness of slope, in addition to smoothness, using template having required slope. Correct high and low areas as specified.

2. Repair defective areas, except random cracks and single holes not exceeding 1-inch diameter, by cutting out and replacing with fresh concrete.

a. Remove defective areas to sound concrete with clean, square cuts, and expose reinforcing steel with at least 3/4-inch clearance around.

b. Dampen concrete surfaces in contact with patching concrete and apply bonding compound.

c. Mix patching concrete to produce concrete of same type or class as original adjacent concrete.

d. Place, compact and finish as required to blend with adjacent finished concrete.

e. Cure in same manner as adjacent concrete.

3.09 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. Owner will employ a special inspector to perform inspection during constructions, as follows:

1. Code Required Testing: Comply with CBC Section 1705 and Table 1705.3.

2. Test concrete to control slumps in accordance with ASTM C143.

3. Test concrete for compressive strength as follows:

a. Make and cure three cylinders according to ASTM C31 for each 50-cubic yards or 2000-square feet of surface area for slabs or walls, or fraction thereof, at each class of structural concrete poured at site each day.

b. In addition, samples for strength tests for each class of concrete shall be taken for 7-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.

c. Test one cylinder at 7-days and two cylinders at 28-days for strength in accordance with ASTM C39.

B. Pay the Owner's testing laboratory for taking core specimens of hardened structural concrete and testing specimens according to ASTM C42 when laboratory tests of specimen cylinders show compressive strengths below specified minimum.

C. Additional sampling and testing for field quality control during placement of concrete may include the following, as directed by the Architect.

1. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.

a. Slump: ASTM C143; one test for each concrete load at point of discharge; and one for each set of compressive strength test specimens.

b. Air Content: ASTM C173, volumetric method for lightweight or normal weight concrete; ASTM C231 pressure method for normal weight concrete; one for each days pour of each type of air entrained concrete.

c. Concrete Temperature: Test hourly when air temperature is 40-deg. F. and below, and when 80-deg. F. and above; and each time a set of compression test specimens are made.

D. Test results shall be reported in writing to Architect and Contractor within 24-hours of making.

END OF SECTION

SECTION 033511

CONCRETE FLOOR FINISHES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Surface treatments for concrete floors and slabs.
- B. Clear coatings.

1.2 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate the work with concrete floor placement and concrete floor curing.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.
- C. Maintenance Data: Provide data on maintenance and renewal of applied finishes.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Deliver materials in manufacturer's sealed packaging, including application instructions.

1.5 FIELD CONDITIONS
- A. Do not finish floors until interior heating system is operational.
- B. Maintain ambient temperature of 50 degrees F minimum.

PART 2 PRODUCTS

2.1 COATINGS
- A. High Gloss Clear Coating: Transparent, nonyellowing, acrylic polymer-based coating.
  - 1. Composition: Solvent-based.
  - 2. Nonvolatile Content: 15 percent, minimum, when measured by volume.
  - 3. Products:
    - a. Euclid Chemical Company: ULTRAGUARD: www.euclidchemical.com/#sle.
    - b. PROSOCO, Inc; LSGuard: www.prosoco.com/consolideck/#sle.
    - c. SpecChem, LLC; Aqua Shine: www.specchemllc.com/#sle.
    - d. W. R. Meadows, Inc; Decra-Seal W/B: www.wrmeadows.com/#sle.
    - e. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that floor surfaces are acceptable to receive the work of this section.
- B. Verify that flaws in concrete have been patched and joints filled with methods and materials suitable for further finishes.

3.2 GENERAL
- A. Apply materials in accordance with manufacturer's instructions.

3.3 COATING APPLICATION
- A. Verify that surface is free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, fats, oils, grease, wax, soluble salts, residues from cleaning agents, and other impediments to adhesion.
- B. Protect adjacent non-coated areas from drips, overflow, and overspray; immediately remove excess material.

C. Apply coatings in accordance with manufacturer's instructions, matching approved mock-ups for color, special effects, sealing and workmanship.

END OF SECTION

SECTION 05 12 00

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing structural steel.

B Materials and fabrication procedures are subject to inspection and tests in mill, shop, and field, conducted by a qualified inspection agency. Promptly remove and replace materials or fabricated components which do not comply.

C. Design of Members and Connections: Details are typical; similar details apply to similar conditions, unless otherwise indicated. Verify dimensions at site whenever possible without causing delay in the work. Notify Architect whenever design of members and connections are not clearly indicated.

D. Comply with structural drawings for steel moment rigid frames:

1.02 SUBMITTALS

A. General: Comply with Section 01 33 00.

B Shop Drawings: Furnish shop drawings prepared under supervision of a registered professional engineer, including complete details and schedules for fabrication and assembly of structural steel members, procedures and diagrams.

1. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by standard AWS symbols, and show size, length, and type of each weld.

2. Furnish setting diagrams, templates, and directions for installation of anchor bolts and other anchorages to be installed as work of other Sections.

C. Test Reports: Furnish copies of test reports conducted on shop and field bolted and welded connections. Include data on types of tests conducted and test results.

D. Surveys: Furnish certified copies of each survey conducted by a registered professional engineer, showing elevations and locations of base plates and anchor bolts, and final elevations and locations for members. Show discrepancies between actual installation and contract documents.

1.03 QUALITY ASSURANCE

A. Welding Qualifications: Prior to commencing welding, welding procedures, welding operations, and welders shall be qualified in accordance with AWS D1.1.

1.04 DELIVERY, STORAGE AND HANDLING

A. General: Comply with Section 01 61 00.

B. Deliver materials to site at intervals to ensure uninterrupted progress of the work.

C. Deliver anchor bolts and anchorage devices which are to be embedded in cast-in-place concrete or masonry.

D. Store materials to permit easy access for inspection and identification.

1. Keep structural steel members off ground, using pallets, platforms, or other supports.

2. Protect steel members and packaged materials from erosion and deterioration.

3. Do not store materials on structure in a manner to cause distortion or damage to members or supporting structures.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: For fabrication of work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, rust and scale, seam marks, roller marks, rolled trade names, and roughness. Remove blemishes by grinding or by welding and grinding, prior to cleaning, treating, and application of surface finishes.

B. Structural Plates and Bars: ASTM A36

C. Wide Flange Sections: ASTM A992, Grade 50.

D. Square and Rectangular HSS:ASTM A500 Grade B (46 Ksi)

E. Round HSS: ASTM A5000 Grade B (42 Ksi)

F. Steel Pipe: ASTM A53, Type E or S, Grade B.

G. Anchor Bolts: ASTM F1554 Grade 36, nonheaded type unless otherwise indicated.

H. Threaded Fasteners: ASTM A325N, bearing bolts. Provide hexagonal heads and nuts for all connections unless otherwise indicated.

I. Welding Electrodes: AWS E70XX.

J. Structural Steel Primer: VOC compliant rust-inhibitive alkyd primer.

2.02 FABRICATION

A. Shop Fabrication and Assembly:

1. Fabricate and assemble structural assemblies in shop where possible.

2. Fabricate items in accordance with AISC Specifications and as indicated on final shop drawings.

3. Provide camber in structural members where indicated.

4. Mark and match-mark materials for field assembly.

5. Fabricate for delivery sequence which will expedite erection and minimize field handling.

6. Where shop priming is required, complete assembly, including welding, before start of finishing operations. Provide finish surfaces of members exposed-to-view which are free of markings, butts and other defects.

B. Connections: Weld or bolt shop connections as indicated.

1. Bolt field connections, except where welded connections or other connections are indicated.

2. Provide normal strength threaded fasteners for all bolted connections, unless noted otherwise.

3. Provide unfinished threaded fasteners for bolting secondary members to primary members, and for temporary bracing to facilitate erection.

4. High-Strength Bolted Connections: Install in accordance with AISC "Specifications for Structural Joints Using ASTM A325 or A490 Bolts", (RCRBSJ).

C. Welded Construction: Comply with AWS Code **D1.1** for procedures, appearance, and quality of welds and methods. **Comply with the additional requirements of AWS Code D1.8 for all welds in Seismic Force**

Resisting System (SFRS) components. Assemble and weld built-up sections by methods which will produce true alignment of axes without warp.

D. Holes for Other Work: Provide holes required for securing other work to structural steel framing, and for passage of other work through framing members as indicated on final shop drawings.

1. Punch, drill, or cut holes perpendicular to metal surfaces.

2. Do not flame cut holes or enlarge holes by burning.

3. Drill holes in bearing plates.

2.03 SHOP PAINTING

A. General: Shop paint structural steel, except members to be embedded in concrete or mortar. Paint embedded steel which is partially exposed on exposed portions and initial 2-inches of embedded areas only.

1. Do not paint surfaces which are to be field welded or high-strength bolted with friction-type connections.

2. Do not paint surfaces which are to receive sprayed-on fire-proofing.

B. Surface Preparation: After inspection and before shipping, clean steel to be painted. Remove loose rust, loose mill scale, and spatter, slag or flux deposits. Clean steel to be field-painted in accordance with SSPC SP-2, 3, or 6 as applicable.

C. Painting: Immediately after surface preparation, apply primer at dry film thickness of not less than 2-mils, in accordance with manufacturer's instructions. Use painting methods which result in full coverage of joints, corners, edges and exposed surfaces.

PART 3 - EXECUTION

3.01 ERECTION

A. Surveys: Check elevations of concrete and masonry bearing surfaces, and locations of anchor bolts and similar devices, before erection proceeds. Do not proceed with erection until corrections have been made.

B. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made.

C. Setting Bases and Bearing Plates:

1. Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve surface bond.

2. Clean bottom surfaces of base and bearing plates.

3. Set loose and attached base plates and bearing plates for structural members on wedges or other adjusting devices.

4. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims; cut off flush with edge of base or bearing plate prior to packing with grout.

5. Pack grout solidly between bearing surfaces and bases or plates, filling voids. Finish exposed surfaces, protect installed materials, and allow to dry.

D. Field Assembly:

1. Set structural frames to lines and elevations indicated. Align and adjust members before permanently fastening.

2. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly.

3. Adjust for discrepancies in elevations and alignment.

4. Level and plumb individual members within specified AISC tolerances. Establish measurements on mean operating temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature of structure when completed.

E. Erection Bolts: Remove erection bolts on exposed welded construction. Fill holes with plug welds and grind smooth.

F. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.

G. Do not enlarge unfair holes in members by burning or by use of drift pins. Ream holes requiring enlargement to admit bolts.

H. Touch-Up Painting:

1. Clean field welds, bolted connections, and abraded areas of shop paint.

2. Apply paint by brush or spray to exposed areas using same material and thickness as used for shop painting.

3. Apply by brush or spray, minimum dry film thickness of 1.5-mils.

3.02 FIELD QUALITY CONTROL

A. Special Inspection: As specified in CBC Section 1704 and CBC Table 1704.3.

1. Steel Construction: As specified in CBC Section 1704.3.

2. Welding: As specified in Section CBC Section 1704.3.1.

B. Structural Observations: As specified in CBC Section 1709.

END OF SECTION

SECTION 051213

ARCHITECTURALL□-EXPOSED STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SECTION INCLUDES
A. Additional requirements for structural steel members designated as architecturally-exposed structural steel (AESS).

1.2 DEFINITIONS
A. Architecturally-Exposed Structural Steel: Structural steel complying with designated AESS category as defined in AISC 303.

1.3 REFERENCE STANDARDS
A. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges 2022.
B. AISC 360 - Specification for Structural Steel Buildings 2022.
C. ASTM A6/A6M - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling 2022.
D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
E. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2023.
F. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings 2020.
G. ASTM A1085/A1085M - Standard Specification for Cold-Formed Welded Carbon Steel Hollow Structural Sections (HSS) 2015.
H. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength 2023.
I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination 2020.
J. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2023).
K. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).
L. SSPC-SP 6 - Commercial Blast Cleaning 2007.

1.4 ADMINISTRATIVE REQUIREMENTS
A. Preinstallation Meeting: Schedule and conduct a preinstallation meeting at project site one week prior to start of work of this section; require attendance by all affected installers. Coordinate requirements for shipping, special handling, storage, attachment of safety cables and temporary erection bracing, final coating, touch-up painting, mock-up coordination, Architect's observations, and other requirements for AESS.

1.5 SUBMITTALS
A. See Section 013000 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Detailing for fabrication of AESS components.
1. Provide erection documents clearly indicating which members are AESS members and the AESS category of each part.
2. Include details that clearly identify AESS requirements found in this specification. Provide connections for AESS consistent with concepts shown on drawings.
3. Indicate welds by AWS A2.4 symbols, distinguishing between shop and field welds, and show size, length and type of each weld. Identify grinding, finish and profile of welds as defined by the designated AESS category.
4. Indicate orientation of hollow structural section (HSS) seams and mill marks (where applicable).
5. Indicate type, size, finish and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tensioned shear/bearing connections. Indicate orientation of bolt heads.
6. Indicate which surfaces or edges are exposed and what class of surface preparation is being used.

7. Indicate special tolerances and erection requirements as noted on drawings or defined by the designated AESS category.
8. Indicate vent or drainage holes for HSS members.

C. Qualification data for fabricator and erector to demonstrate their capabilities and experience. Include lists of completed projects names and address, names and addresses of architects and owners, photographs showing detail of installed AESS, and other information specified.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: In addition to those qualifications listed in Section 051200, engage an AISC Certified Fabricator, experienced in fabricating AESS similar to that indicated for this project with a record of successful in-service performance, as well as sufficient production capacity to fabricate AESS without delaying the work.
B. Erector Qualifications: In addition to those qualifications listed in Section 051200, engage an AISC Certified Erector, experienced in erecting AESS work similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance.
C. Comply with applicable provisions of AISC 303, Section 10 for the designated AESS category.
D. Contractor to engage a quality assurance agency per requirements of AISC 360, Chapter N and AISC 303, Section 10.

1.7 MOCK-UP

A. Provide mock-ups for AESS 3, AESS 4, and AESS C of nature and extent indicated in contract documents.
B. See Section 014000 - Quality Requirements for additional requirements.
C. Locate mock-ups where directed. Mock-ups to be full-size unless Architect approves smaller models. Alternatively, when a mock-up is not practical, the first piece of an element or connection can be used to determine acceptability.
D. Notify Architect one week in advance of dates and times when mock-ups will be available for review.
E. Demonstrate applicable AESS characteristics for specified category of AESS on elements and joints in mock-up.
F. Build mock-ups using member sizes and materials indicated for final work.
G. Mock-up to demonstrate weld quality, contouring of welds at aligned walls of members, specified surface preparation, and finish coating.
H. Obtain Architect's written approval of mock-ups before starting fabrication.
I. Retain and maintain mock-ups during construction in an undisturbed condition as a standard for judging completed work.
J. Approved mock-ups in an undisturbed condition at Date of Substantial Completion may become part of completed work.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Handle finished pieces in accordance with Section 10 of AISC 303, using nylon-type slings, or chains with softeners, or wire ropes with softeners such that they are not damaged.
B. Store materials to permit easy access for inspection and identification. Keep steel members off ground by using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration. Use special care in handling to prevent twisting or warping of AESS members.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Comply with Section 051200, except as amended in this section for aesthetic purposes.
B. Comply with AISC 303, Section 10 for specific AESS category designated on drawings.

2.2 FABRICATION

A. Fabricate and assemble AESS in shop to greatest extent possible. Locate field joints in AESS assemblies at concealed locations or as approved by Architect. Detail AESS assemblies to minimize field handling and expedite erection.
B. Permissible tolerances for member depth, width, out of square, and camber and sweep to be as specified in ASTM A6/A6M, ASTM A500/A500M, and ASTM A1085/A1085M.
C. Use special care in handling and shipping of AESS both before and after shop painting to minimize damage to any shop finish. Use nylon-type slings or softeners when using chains or wire rope slings.
D. Bolted Connections:
   1. Make in accordance with Section 051200. Provide bolt type and finish as noted herein.
E. Welded Connections:

1. Comply with AWS D1.1/D1.1M and Section 051200.
2. Assemble and weld built-up sections by methods that will maintain alignment of members without warp exceeding tolerances of this section.

F. Surface Preparation:
1. Remove blemishes or unsightly surfaces resulting from temporary braces or fixtures.
2. Remove backing and run out tabs.

G. Fabricate AESS in accordance with categories defined in AISC 303, as follows:
1. AESS 1: Basic elements.
2. AESS 2: Feature elements viewed at a distance greater than 20 feet (feature elements not in close view).
3. AESS 3: Feature elements viewed at a distance less than 20 feet (feature elements in close view).
4. AESS 4: Showcase elements with special surface and edge treatment beyond fabrication (showcase elements).
5. AESS C: Custom elements; fabricate to requirements of AESS 1 and the following characteristics:

2.3 PAINT SYSTEM

A. Compatibility: All components/procedures of AESS paint system to conform to coating system specified, submitted, and approved per Section 099000. As a minimum, identify required surface preparation, primer, intermediate coat (if applicable), and finish coat. Primer, intermediate coating, and finish coating to be from a single manufacturer combined in a system documented by manufacturer with adequate guidance for fabricator to procure and execute.

B. Primer: As specified in Section 099000. Primer to comply with all federal standards for VOC, lead and chromate levels.

C. Finish Coating: Field apply intermediate and top coats per Section 099000.
1. Finish: Custom paint selection to match storefront finish.

2.4 SHOP PRIMING

A. Surface Preparation:
1. Provide surface preparations to meet SSPC-SP 6.
2. Coordinate required surface profile with approved paint submittal prior to beginning surface preparation.
3. Prior to blasting, remove any grease and oil using solvent cleaning to meet SSPC-SP 1.
4. Remove weld spatter, slivers and similar surface discontinuities.
5. Ease sharp corners resulting from shearing, flame cutting or grinding.

B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted with slip-critical connections.
1. Extend priming of members partially embedded in concrete or mortar to a depth of 2 inches.

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's instructions to provide a dry film thickness of not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop primer to surfaces that are inaccessible after assembly or erection.

2.5 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by hot-dip process to AESS indicated for galvanizing according to ASTM A123/A123M. Fabricate such that all connections of assemblies are made in the field with bolted connections where possible.

2.6 MATERIALS

A. General: Meet requirements of 051200 as amended below.

B. Tension Control, High-Strength Bolts, Nuts, and Washers: Per section 051200, Tension Control Bolts. Provide standard carbon steel finish rounded bolt heads with twist off bolts; ASTM F3125/F3125M.

2.7 SOURCE QUALITY CONTROL

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

B. Structural Requirements:
1. Comply with quality control requirements per AISC 360, Chapter N and AISC 303, Section 10. Refer to Section 051200 for additional requirements.

C. AESS 1 and 2 Acceptance: Architect to observe AESS in the shop at a viewing distance consistent with final installation and determine acceptability based on qualification data and submittals. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.
D. AESS 3,4, and C Acceptance: Architect to observe AESS in the shop at a viewing distance consistent with final installation and determine acceptability based on approved mock-up. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Erector to check all AESS members upon delivery for twist, kinks, gouges or other imperfections which may result in rejection of appearance of member. Coordinate remedial action with fabricator prior to erecting steel.

3.2 PREPARATION
A. Provide connections for temporary shoring, bracing and supports only where noted on approved fabrication documents. Temporary connections not shown are to be made at locations not exposed to view in final structure or as approved by Architect.
B. Handle, lift and align pieces using nylon straps or chains with softeners required to maintain appearance of AESS through process of erection.

3.3 ERECTION
A. AESS 1 and 2: Basic elements; feature elements not in close view, beyond 20 feet:
1. Employ special care to handle and erect AESS. Erect finished pieces using nylon straps or chains with softeners such that they are not damaged.
2. Place weld tabs for temporary bracing and safety cabling at points concealed from view in completed structure or where approved by Architect during pre-installation meeting. Obtain Architect approval of methods for removing temporary devices and finishing AESS members prior to erection.
3. AESS Erection Tolerances: Erect to standard frame tolerances for structural steel per Chapter 7 of AISC 303.
4. Set AESS accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
5. Remove blemishes or unsightly surfaces resulting from temporary braces or fixtures.
6. Remove all backing and run out tabs.
7. When temporary braces or fixtures are required to facilitate erection, take care to avoid any blemishes, holes or unsightly surfaces resulting from use or removal of such temporary elements.
8. Bolted Connections: Align bolt heads on same side of connection as indicated on approved fabrication or erection documents.
9. Welded Connections: Comply with AWS D1.1/D1.1M and Section 051200. Appearance and quality of welds to be consistent. Employ methods that will maintain alignment of members without warp exceeding tolerance of this section.
10. Remove weld spatter exposed to view.
11. Grind off projections larger than 1/16 inch at field butt and plug welds.
12. Continuous Welds: Where continuous welding is noted on drawings, provide continuous welds of a uniform size and profile.
13. Do not enlarge holes in members by burning or by using drift pins. Ream holes that must be enlarged to admit bolts. Replace connection plates that are misaligned where holes cannot be aligned with acceptable final appearance.
14. Splice members only where indicated.
15. Obtain permission for any torch cutting or field fabrication from Architect. Finish sections thermally cut during erection to a surface appearance consistent with mock-up.
B. AESS 3: Feature elements in close view, between 10 and 20 feet:
1. Erect to requirements of AESS 1 and 2 and as follows:
2. Provide a continuous appearance to all welded joints including tack welds. Provide joint filler at intermittent welds.
C. AESS 4: Showcase elements, within 10 feet:
1. Erect to requirements of AESS 3 and as follows:

2. Grind welds smooth.
3. Minimize Weld Show Through: At locations where welding on far side of an exposed connection creates distortion, grind distortion and marking of steel to a smooth profile with adjacent material.
4. Filling of Weld Access Holes: Where holes must be cut in web at intersection with flanges on W shapes and structural tees to permit field welding of flanges, fill holes with joint filler.
5. Where welds are indicated to be ground, contoured, or blended, oversize welds as required and grind to provide a smooth transition and match profile on approved mock-up.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.
B. Structural Requirements:
   1. Comply with quality control requirements per AISC 360, Chapter N and AISC 303, Section 10. Refer to Section 051200 for additional requirements.
   2. Quality assurance agency to review work for compliance with requirements of AISC 360, Chapter N and AISC 303, Section 10.
C. AESS 1 and 2 Acceptance: Architect to observe AESS in place and determine acceptability based on qualification data and submittals. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.
D. AESS 3,4, and C Acceptance: Architect to observe AESS in place and determine acceptability based on qualification data and submittals as well as on approved mock- up. Quality assurance agency has no responsibility for enforcing requirements related to aesthetic effect.

3.5 CLEANING

A. Touch-up Painting: Complete cleaning and touch-up painting of field welds, bolted connections, and abraded areas of shop paint to blend with adjacent surfaces of AESS. Perform touch-up work in accordance with manufacturer's instructions and as specified in Section 099113, 099123, and 099600.
B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas. Repair galvanized surfaces in accordance with ASTM A780/A780M.

END OF SECTION

SECTION 054000

COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Formed steel stud exterior wall framing.

1.2 REFERENCE STANDARDS
- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.
- C. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2023.
- D. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories 2020.
- E. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic) 2019.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate with work of other sections that is to be installed in or adjacent to the metal framing system, including but not limited to structural anchors, cladding anchors, utilities, insulation, and firestopping.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations.
- C. Product Data: Provide manufacturer's data on factory-made framing connectors, showing compliance with requirements.
- D. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
  1. Indicate stud layout.
  2. Describe method for securing studs to tracks and for bolted framing connections.
  3. Design data:
     - a. Shop drawings signed and sealed by a professional structural engineer.
  4. Calculations for loadings and stresses of specially fabricated framing, signed and sealed by a professional structural engineer.
  5. Details and calculations for factory-made framing connectors, signed and sealed by a professional structural engineer.
- E. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention.

1.5 QUALITY ASSURANCE
- A. Designer Qualifications: Design framing system under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, and with minimum three years of documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.6 MOCK-UP
- A. Provide mock-up of exterior framed wall, including components specified elsewhere, such as insulation, sheathing, door frame, and exterior wall finish.
- B. Mock-Up Size: As indicated on drawings.
- C. Location: As directed.
- D. Mock-up may remain as part of the Work.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Metal Framing:
  1. CEMCO: www.cemcosteel.com/#sle.
  2. ClarkDietrich Building Systems: www.clarkdietrich.com/#sle.
  3. Marino: www.marinoware.com/#sle.
  4. The Steel Network, Inc: www.SteelNetwork.com/#sle.
  5. Substitutions: See Section 016000 - Product Requirements.
- B. Framing Connectors and Accessories:
  1. Same manufacturer as metal framing.
  2. Simpson Strong Tie: www.strongtie.com/#sle.
  3. Substitutions: See Section 016000 - Product Requirements.

2.2 FRAMING SYSTEM
- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.
- B. Design Requirements: Provide completed framing system having the following characteristics:
  1. Design: Calculate structural characteristics of cold-formed steel framing members according to AISI S100-12.
  2. Structural Performance: Design, engineer, fabricate, and erect to withstand specified design loads for project conditions within required limits.
  3. Design Loads: In accordance with applicable codes.
  4. Live load deflection meeting the following, unless otherwise indicated:
     - a. Exterior Walls: Maximum horizontal deflection under wind load of 1/180 of span.
     - b. Design non-axial loadbearing framing to accommodate not less than 1/2 in vertical deflection.
  5. Able to tolerate movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
  6. Able to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
- C. Shop fabricate framing system to the greatest extent possible.
- D. Deliver to site in largest practical sections.

2.3 FRAMING MATERIALS
- A. Studs and Track: ASTM C955; studs formed to channel, "C", or "Sigma" shape with punched web; U-shaped track in matching nominal width and compatible height.
  1. Gage and Depth: As required to meet specified performance levels.
  2. Galvanized in accordance with ASTM A653/A653M, G60/Z180 coating.
  3. Provide components fabricated from ASTM A1008/A1008M Designation SS (structural steel).
- B. Framing Connectors: Factory-made, formed steel sheet.
  1. Material: ASTM A653/A653M SS Grade 33 and 40 (minimum), with G90/Z275 hot dipped galvanized coating for base metal thickness less than 10 gage, 0.1345 inch, and factory punched holes and slots.
  2. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
  3. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, shouldered screws or screws and anti-friction or stepped bushings, while maintaining structural performance of framing. Provide movement connections where indicated on drawings.
     - a. Where top of stud wall terminates below structural floor or roof, connect studs to structure in manner allowing vertical and horizontal movement of slab without affecting studs; allow for minimum movement of 1/2 inch.
     - b. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 10 feet.

4. Fixed Connections: Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.
5. Wall Stud Bridging Connections: Provide mechanical load-transferring devices that accommodate wind load torsion and weak axis buckling induced by axial compression loads. Provide bridging connections where indicated on the drawings.

2.4 FASTENERS
A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
1. Products:
a. ITW Commercial Construction North America; ITW CCNA-Buildex Teks Select Series: www.ITWBuildex.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.
B. Anchorage Devices: Powder actuated and Drilled expansion bolts.
C. Welding: Comply with AWS D1.1/D1.1M.

2.5 ACCESSORIES
A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.
B. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that substrate surfaces are ready to receive work.
B. Verify field measurements and adjust installation as required.

3.2 INSTALLATION OF STUDS
A. Install components in accordance with manufacturers' instructions and ASTM C1007 requirements.
B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 24 inches on center. Coordinate installation of sealant with floor and ceiling tracks.
C. Place studs at 16 inches on center; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using clip and tie method.
D. Construct corners using minimum of three studs. Install double studs at wall openings, door and window jambs.
E. Coordinate placement of insulation in multiple stud spaces made inaccessible after erection.
F. Install intermediate studs above and below openings to align with wall stud spacing.
G. Provide deflection allowance in stud track, directly below horizontal building framing at non-load bearing framing.
H. Attach cross studs to studs for attachment of fixtures anchored to walls.
I. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.
J. Touch-up field welds and damaged galvanized surfaces with primer.

3.3 TOLERANCES
A. Maximum Variation from True Position: 1/4 inch.
B. Maximum Variation of any Member from Plane: 1/4 inch.

END OF SECTION

SECTION 055000

METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Shop fabricated steel items.

1.2 REFERENCE STANDARDS
- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.
- C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- D. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates 2018.
- E. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength 2021.
- F. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing 2021.
- G. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.
- H. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2023.
- I. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- J. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- K. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination 2020.
- L. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2023).
- M. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172 2019.
- N. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.
- O. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic) 2019.
- P. SSPC-SP 2 - Hand Tool Cleaning 2018.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- D. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.4 QUALITY ASSURANCE
- A. Design load bearing members under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.
- B. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL
- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- C. Plates: ASTM A283/A283M.
- D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
- E. Slotted Channel Framing: ASTM A653/A653M, Grade 33.

F. Slotted Channel Fittings: ASTM A1011/A1011M.
G. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.
H. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
I. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
J. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.2 MATERIALS - ALUMINUM
A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

2.3 FABRICATION
A. Fit and shop assemble items in largest practical sections, for delivery to site.
B. Fabricate items with joints tightly fitted and secured.
C. 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.
D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.4 FABRICATED ITEMS
A. Ladders: Steel; in compliance with ANSI A14.3; with mounting brackets and attachments; prime paint finish.
1. Side Rails: 3/8 x 2 inches members spaced at 20 inches.
2. Rungs: one inch diameter solid round bar spaced 12 inches on center.
3. Space rungs 7 inches from wall surface.
B. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.
C. Joist Hangers: Strap anchors, fabricated with sheet steel, 18 gage, 0.0478 inch minimum base metal thickness; galvanized finish.
D. Lintels: As detailed; galvanized finish.
E. Slotted Channel Framing: Fabricate channels and fittings from structural steel complying with the referenced standards; factory-applied, rust-inhibiting thermoset acrylic enamel finish.

2.5 FINISHES - STEEL
A. Prime paint steel items.
1. Exceptions: Galvanize items to be embedded in concrete, items to be embedded in masonry, and items exposed to exterior.
B. Prepare surfaces to be primed in accordance with SSPC-SP2.
C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
D. Prime Painting: One coat.
E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating.
F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.6 FABRICATION TOLERANCES
A. Squareness: 1/8 inch maximum difference in diagonal measurements.
B. Maximum Offset Between Faces: 1/16 inch.
C. Maximum Misalignment of Adjacent Members: 1/16 inch.
D. Maximum Bow: 1/8 inch in 48 inches.
E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION
A. Clean and strip primed steel items to bare metal where site welding is required.
B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.3 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.
B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
C. Field weld components as indicated on drawings.
D. Perform field welding in accordance with AWS D1.1/D1.1M.
E. Obtain approval prior to site cutting or making adjustments not scheduled.
F. After erection, prime welds, abrasions, and surfaces not shop primed , except surfaces to be in contact with concrete.

3.4 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
B. Maximum Offset From True Alignment: 1/4 inch.
C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 06 06 60

TRANSLUCENT RESIN PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the Plastic Fabrication as shown and specified in the described system(s):

1. Cabinet fronts

1.3 SUBMITTALS

A. General: Submit the following in accordance with conditions of contact and Division 1 specification section 01 33 00 “Submittal Procedures”.

B. Product Data: Submit manufacturer’s product data; include product description, fabrication information, and compliance with specified performance requirements.

C. Submit product test reports from a qualified independent 3rd party testing agency indicating each type and class of panel system complies with the project performance requirements, based on comprehensive testing of current products. Previously completed test reports will be acceptable if for current manufacturer and indicative of products used on this project.

1. Test reports required are:
   a. Rate of Burning (ASTM D 635)
   b. Self-Ignition Temperature (ASTM D 1929)
   c. Density of Smoke (ASTM D 2843)
   d. Flame Spread and Smoke Developed testing (ASTM E 84)
   e. Room Corner Burn Test (NFPA 286)
   f. Extent of Burning (UL 94)
   g. Impact strength (ASTM D 3763)
   h. Safety glazing impact resistance (ANSI Z97.1-2004)
   i. UPITT Test for Combustion Product Toxicity
   j. Passes NFPA 269/ASTM1678 for Combustion Product Toxicity
   k. Dynamic environmental testing (ASTM standards D 5116 or D 6670)
   l. UL Yellowcard

D. Building Approvals: Plastic Fabrications are to have been evaluated and must be registered with and comply to requirements of the following jurisdictions:

1. Los Angeles Department of Building and Safety (Product must have a LARR [Los Angeles Research Report] number) for use as Light-transmitting Panels
2. ICC-ES Report for Light Transmitting Plastics and Interior Finishes

E. Shop Drawings: Include plans, elevations, sections, panel dimensions, details, and attachments to other work.

F. Samples for Initial Selection:

1. Submit minimum 2-inch by 2-inch samples. Indicate full color, texture and pattern variation.

G. Samples for Verification:

1. Submit minimum 4-inch by 4-inch sample for each type, texture, pattern and color of solid plastic fabrication.

H. Mockups:

1. Build mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects.
2. Build mockup of [**each type of**] Plastic Fabrication.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

I. Maintenance Data: Submit manufacturer's care and maintenance data, including care, repair and cleaning instructions. Include in Project closeout documents.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications

1. Materials and systems shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least five (5) consecutive years and which can show evidence of those materials being satisfactorily used on at least six (6) projects of similar size, scope and location. At least three (3) of the projects shall have been successful for use five (5) years or longer.
2. Manufactured panels must be produced from a minimum of 40% pre-consumer recycle content. This recycle content must be certified by a recognized 3rd party certification group, such as Scientific Certification Systems (SCS).
3. Completely PVC – Free product
4. Manufacturer must offer a documented reclaim process that will take back, at the manufacturers cost, panels that are at their end-of life cycle. Return process is preceded by following requirements highlighted in Section 02 42 00 Removal and Salvage of Construction Materials.
5. Manufacturer must have a 3rd party completed Life Cycle Analysis
6. Manufacturer must have an Environmental Product Declaration (EPD).

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver Plastic Fabrications, systems and specified items in manufacturer's standard protective packaging.

B. Do not deliver Plastic Fabrications, system, components and accessories to Project site until areas are ready for installation.

C. Store materials in a flat orientation in a dry place that is not exposed to exterior elements.

D. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent damage or staining following installation for duration of project.

E. Before installing Plastic Fabrications, permit them to reach room temperature.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install Solid Polymer Fabrications until spaces are enclosed and weatherproof, and ambient temperatures and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.7 WARRANTY

A. Manufacturer's Special Warranty on Plastic Fabrications: Manufacturer's standard form agreeing to repair or replace units that fail in material or workmanship within the specified warranty period.

B. Warranty Period: 1 year after the date of substantial completion.

C. The warranty shall not deprive the owner of other rights or remedies the Owner may have under other provisions of the Contract Documents, and is in addition to and runs concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: 3form, LLC., Salt Lake City, Utah, USA / telephone 801-649-2500

2.2 MATERIALS

A. Varia Ecoresin™ Sheet

1. Engineered co-polyester resin produced in the USA
2. Sheet Size: Maximum 4’ x 10’
3. Thickness: Minimum 1/16”
4. Basis of Design Product: The design of Plastic Fabrications is based on Varia Ecoresin™ as provided by 3form, LLC. Products from other manufacturers must be approved by the Architect or Designer prior to bidding in accordance with the Instructions to Bidders and Section 10 60 00 “Product Requirements”.

B. Interlayer Materials: Compatible with polyesters and bonding process to create a monolithic sheet of material when complete.

C. Sheet minimum performance attributes:

1. Rate of Burning (ASTM D 635). Material must attain CC1 Rating for a nominal thickness of 1.5 mm (0.060 in.) and greater.
2. Self-Ignition Temperature (ASTM D 1929). Material must have a Self-ignition temperature greater than 650°F.
3. Density of Smoke (ASTM D 2843). Material must have a smoke density less than 75%.
4. Flame spread and Smoke developed testing (ASTM E 84). Material must be able to meet a level of Class A (Flame spread less than 25 and smoke less than 450) at thickness of 1/8”,3/16” and 1”.
5. Room Corner Burn Test (NFPA 286). Material must meet Class A criteria at ¼” (walls only) and 3/8” (walls only/standoffs only) thickness as described by the 2012 *International Building Code*.
6. Extent of Burning (UL 94). Must submit UL card.
7. Impact strength. Minimum impact strength test as measured by ASTM D 3763 of 20 ft. lbs. (for durability, shipping, installation, and use).
8. Safety Glazing. Material must attain a Class A impact rating in accordance with ANSI Z97.1-2004 at 1/8” thickness.
9. UPITT Test for Combustion Product Toxicity: Product must be recorded as “not more toxic than wood”.
10. NFPA 269/ASTM 1678 test for toxicity: Product must have a best predicted LC_{50} value ≤ 80.8 g/m^3 Product must have a best predicted corrected for post-flashover conditions LC_{50} value ≤ 19.0 g/m^3
11. Dynamic environmental testing (ASTM standards D 5116 or D 6670). Panels must not have detectable VOC off-gassing agents and must be have Greenguard™ Indoor Air Quality Children and Schools certified.
12. Panels must be produced from a minimum of 40% pre-consumer recycle content. This recycle content must be certified by a recognized 3rd party certification group, such as Scientific Certification Systems (SCS).
13. Building Approvals: Plastic Fabrications are to have been evaluated and must be registered with and comply to requirements of the following jurisdictions:
    a. New York Department of Buildings (Product must have an MEA [Materials and Equipment Acceptance] number) for use as Interior Finishes
    b. Los Angeles Department of Building and Safety (Product must have a LARR [Los Angeles Research Report] number) for use as Light-transmitting Panels
    c. ICC-ES Report for Interior Finishes and Light Transmitting plastics

2.3 FABRICATION

A. General: Fabricate Plastic Fabrications to designs, sizes and thicknesses indicated and to comply with indicated standards. Sizes, profiles and other characteristics are indicated on the drawings.

B. Comply with manufacturer’s written recommendations for fabrication.

C. Machining: Acceptable means of machining are listed below. Ensure that material is not chipped or warped by machining operations.

1. Sawing: Select equipment and blades suitable for type of cut required.
2. Drilling: Drills specifically designed for use with plastic products.
3. Milling: Climb cut where possible.
4. Routing
5. Tapping

D. Forming: Form products to shapes indicated using the appropriate method listed below. Comply with manufacturer's written instructions.

1. Cold Bending
2. Hot Bending
3. Thermoforming: Acceptable only on uncoated material.
4. Drape Forming
5. Matched Mold Forming
6. Mechanical Forming

E. Laminating: Laminate to substrates indicated using adhesives and techniques recommended by manufacturer.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide products of material, size, and shape required for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaner: Type recommended by manufacturer.

C. Fasteners: Use screws designed specifically for plastics. Self-threading screws are acceptable for permanent installations. Provide threaded metal inserts for applications requiring frequent disassembly such as light fixtures.

D. Bonding Cements: May be achieved with solvents or adhesives, suitable for use with product and application.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where installation of Plastic Fabrications will occur, with Installer present, for compliance with manufacturer's requirements. Verify that substrates and conditions are satisfactory for installation and comply with requirements specified.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions for the installation of Plastic Fabrications.

B. Manufacturer's shop to fabricate items to the greatest degree possible.

C. Utilize fasteners, adhesives and bonding agents recommended by manufacturer for type of installation indicated. Material that is chipped, warped, hazed or discolored as a result of installation or fabrication methods will be rejected.

D. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.

E. Form field joints using manufacturer's recommended procedures. Locate seams in panels so that they are not directly in line with seams in substrates.

F. We recommend that installation is completed by a 3form Certified Installer. Contact 3form for more information or to get a quote.

3.3 CLEANING AND PROTECTION

Protect surfaces from damage until date of substantial completion. Repair work or replace damaged work, which cannot be repaired to Architect's satisfaction.

PRODUCT DATA SHEET 1 - Solid Polymer Fabrication #1 (SPF-1)

Product:	Varia
Color/pattern:	to be approved by Architect
Diffuser:	Powder
Gauge:	3/8”
Surface Finish:	Sandstone front and back
Orientation:	Vertical when installed.

End of Section 06 06 60

SECTION 061053

MISCELLANEOUS ROUGH CARPENTR

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Roofing nailers.
- B. Preservative treated wood materials.
- C. Fire retardant treated wood materials.
- D. Communications and electrical room mounting boards.
- E. Concealed wood blocking, nailers, and supports.

1.2 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 2023c.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood 2023.
- D. PS 1 - Structural Plywood 2019.
- E. PS 20 - American Softwood Lumber Standard 2021.
- F. SPIB (GR) - Standard Grading Rules 2021.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials and application instructions.
- C. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.4 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.

1.5 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS
- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  1. Species: Southern Pine, unless otherwise indicated.
  2. 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.
  3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS
- A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
  1. Lumber: S4S, No.2 or Standard Grade.
  2. Boards: Standard or No.3.

2.3 CONSTRUCTION PANELS
- A. Communications and Electrical Room Mounting Boards: PS 1, A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.4 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. Anchors: Toggle bolt type for anchorage to hollow masonry.

2.5 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.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
B. Fire Retardant Treatment:
1. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature, low hygroscopic type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
b. Treat rough carpentry items as indicated.
c. Do not use treated wood in applications exposed to weather or where the wood may become wet.
C. Preservative Treatment:
1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.10 lb/cu ft retention.
a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
b. Treat lumber exposed to weather.
c. Treat lumber in contact with roofing, flashing, or waterproofing.
d. Treat lumber in contact with masonry or concrete.
e. Treat lumber less than 18 inches above grade.
f. Treat lumber in other locations as indicated.

PART 3 EXECUTION

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

3.2 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.

3.3 BLOCKING, NAILERS, AND SUPPORTS
A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
B. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
C. 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.
D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
E. Provide the following specific nonstructural framing and blocking:
1. Cabinets and shelf supports.
2. Grab bars.

3. Towel and bath accessories.
4. Chalkboards and marker boards.

3.4 ROOF-RELATED CARPENTRY
A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.5 INSTALLATION OF CONSTRUCTION PANELS
A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on 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.
4. Size and Location: As indicated on drawings.

3.6 CLEANING
A. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
B. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 064100

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Specially fabricated cabinet units.
- B. Countertops.

1.2 REFERENCE STANDARDS
- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).
- B. AWI (QCP) - Quality Certification Program Current Edition.
- C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.
- D. BHMA A156.9 - Cabinet Hardware 2020.
- E. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood 2020.
- F. NEMA LD 3 - High-Pressure Decorative Laminates 2005.
- G. UL (DIR) - Online Certifications Directory Current Edition.

1.3 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.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
  1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
  2. Provide the information required by AWI/AWMAC/WI (AWS).
- C. Product Data: Provide data for hardware accessories.
- D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet substrate and finish.

1.5 QUALITY ASSURANCE
- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
  1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.
  2. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.
- B. Quality Certification:
  1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.
  2. Provide labels or certificates indicating that the installed work complies with AWI/AWMAC/WI (AWS) requirements for grade or grades specified.
  3. Provide designated labels on shop drawings as required by certification program.
  4. Provide designated labels on installed products as required by certification program.
  5. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.
  6. Replace, repair, or rework all work for which certification is refused.

1.6 MOCK-UP
- A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.
- B. See Section 014000 - Quality Requirements for additional requirements.
- C. Locate where directed.
- D. Mock-up may remain as part of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Protect units from moisture damage.

1.8 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

2.1 CABINETS
A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
B. Wood Veneer Faced Cabinet:
1. Exposed Surfaces: HPVA HP-1 Grade A, species as indicated, plain sliced, matched as scehduled.
2. Semiexposed Surfaces:
a. Surfaces Other Than Drawer Bodies: Thermoset decorative panels.
1) Edges of Thermoset Decorative Panel Shelves: PVC or polyester edge banding.
(a) Color: Black.
b. Drawer Subfronts, Backs, and Sides: Thermoset decorative panels.
1) Color: Black.
c. Drawer Bottoms: Thermoset decorative panels.
1) Color: Black.
C. Plastic Laminate Faced Cabinets: Custom grade.

2.2 LAMINATE MATERIALS
A. Manufacturers:
1. Formica Corporation: www.formica.com/#sle.
2. Substitutions: See Section 016000 - Product Requirements.
B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
C. Colos and Patterns: As scheduled.
D. Provide specific types as indicated.
1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, through color, colors as indicated, finish as indicated.
2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, through color, colors as indicated, finish as indicated.
3. Post-Formed Horizontal Surfaces: HGP, 0.039 inch nominal thickness, through color, colors as indicated, finish as indicated.
4. Cabinet Liner: CLS, 0.020 inch nominal thickness, through color, colors as indicated, finish as indicated.
5. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.3 COUNTERTOPS
A. Countertops are specified in Section 123600.

2.4 ACCESSORIES
A. Adhesive: Type recommended by fabricator to suit application.
B. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
1. Color: As selected by Architect from manufacturer's standard range.
C. Fasteners: Size and type to suit application.
D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.
E. Concealed Joint Fasteners: Threaded steel.
F. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.5 HARDWARE
A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. 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 spacing adjustments.
C. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.
D. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.
E. Catches: Magnetic.
F. Drawer Slides:
1. Type: Full extension with overtravel.
2. Static Load Capacity: Extra Heavy Duty grade.
3. Mounting: Bottom mounted.
4. Stops: Integral type.
5. Features: Provide self closing/stay closed type.
G. Hinges: European style concealed self-closing type, steel with polished finish.
H. Soft Close Adapter: Concealed, frame-mounted, screw-adjustable damper ; steel with polished finish.

2.6 SHOP TREATMENT OF WOOD MATERIALS
A. Provide UL (DIR) listed and approved identification on fire retardant treated material.
B. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

2.7 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.
E. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches on center.
F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

2.8 SHOP FINISHING
A. Sand work smooth and set exposed nails and screws.
B. On items to receive transparent finishes, use wood filler matching or blending with surrounding surfaces and of types recommended for applied finishes.
C. 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. System - 11, Polyurethane, Catalyzed.
b. Stain: As selected by Architect.
c. Sheen: Semigloss.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify adequacy of backing and support framing.
B. Verify location and sizes of utility rough-in associated with work of this section.

3.2 INSTALLATION
A. Install work in accordance with AWI/AWMAC/WI (AWS) 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. Do not use additional overlay trim for this purpose.
F. Secure cabinets to floor using appropriate angles and anchorages.

3.3 ADJUSTING
A. Adjust installed work.
B. Adjust moving or operating parts to function smoothly and correctly.

3.4 CLEANING
A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 068316

FIBERGLASS REINFORCED PANELING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Fiberglass reinforced plastic panels.
- B. Trim.

1.2 REFERENCE STANDARDS
- A. 9 CFR 416.2 - Regulatory Requirements Under the Federal Meat Inspection Act and the Poultry Products Inspection Act, Part 416-Sanitation current edition.
- B. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics 2023, with Editorial Revision.
- C. ASTM D2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor 2013a.
- D. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.
- E. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels 2022.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Fiberglass Reinforced Plastic Panels:
  - 1. Crane Composites, Inc: www.cranecomposites.com/#sle.
  - 2. Marlite, Inc: www.marlite.com/#sle.
  - 3. Nudo Products, Inc: www.nudo.com/#sle.
  - 4. Substitutions: See Section 01 6000 - Product Requirements.

2.2 PANEL SYSTEMS
- A. Wall Panels:
  - 1. Panel Size: 4 by 8 feet.
  - 2. Panel Thickness: 0.10 inch.
  - 3. Surface Design: Embossed.
  - 4. Color: White.
  - 5. Attachment Method: Adhesive only, with trim and sealant in joints.

2.3 MATERIALS
- A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
  - 1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.
  - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
  - 3. Scratch Resistance: Barcol hardness score greater than 35, when tested in accordance with ASTM D2583.
  - 4. Impact Strength: Greater than 6 ft lb force per inch, when tested in accordance with ASTM D256.

5. Sanitation and Cleanability: Comply with 9 CFR 416.2.

B. Trim: Vinyl; color coordinating with panel.
C. Adhesive: Type recommended by panel manufacturer.
D. Sealant: Type recommended by panel manufacturer; white.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions and substrate flatness before starting work.
B. Verify that substrate conditions are ready to receive the work of this section.
C. Verify that layout of hangers will not interfere with other work; make adjustments in layout as necessary.

3.2 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's instructions.
B. Cut and drill panels with carbide tipped saw blades, drill bits, or snips.
C. Apply adhesive to the back side of the panel using trowel as recommended by adhesive manufacturer.
D. Apply panels to wall with seams plumb and pattern aligned with adjoining panels.
E. Install panels with manufacturer's recommended gap for panel field and corner joints.
F. Place trim on panel before fastening edges, as required.
G. Fill channels in trim with sealant before attaching to panel.
H. Install trim with adhesive and screws or nails, as required.
I. Seal gaps at floor, ceiling, and between panels with applicable sealant to prevent moisture intrusion.
J. Remove excess sealant after paneling is installed and prior to curing.

END OF SECTION

SECTION 070153

ROOF MODIFICATIONS

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 the following:
  1. Modifications to existing roofing system in preparation for tie-in with new adjacent compatible roofing system.
  2. Patching of existing roofing system where existing openings are no longer required.
  3. Cutting in of new penetrations through existing roof system, and flashing with new materials into existing roofing system.
  4. Temporary roofing membrane.
  5. Protection of existing roofing system that is not to be modified or disturbed.

1.3 MATERIALS OWNERSHIP
- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS
- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Existing Membrane Roofing System: Roofing membrane, surfacing, and components and accessories between deck and roofing membrane.
- C. Substrate Board: Rigid board or panel products placed over the roof deck that serve as thermal barriers, provide a smooth substrate, or serve as a component of a fire-resistance-rated roofing system.
- D. Roof Re-Cover Preparation: Existing roofing membrane that is to remain and be prepared for reuse.
- E. Partial Roof Tear-Off: Removal of a portion of existing membrane roofing system from deck or removal of selected components and accessories from existing membrane roofing system.
- F. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- G. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.5 SYSTEM DESCRIPTION
- A. Designated Roof Areas: Remove existing ballast (if any), perimeter flashings, base flashings, counter flashings, vent stack flashings, roofing membrane, insulation, and other system components as required for roofing work.
- B. Remove or relocate designated roof mounted mechanical and electrical equipment as required for roofing work.
- C. Provide products required by manufacturers to be fully compatible with each other and with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.
- D. Provide new roof membrane, insulation, and flashing to accommodate roof mounted equipment removal or relocation, penetrations, and new building addition.
- E. Performance Requirements: Prevent water infiltration through roof membrane penetrations or modifications resulting from work described in Contract Documents.
- F. Industry Standards: Conform to NRCA - Roofing and Waterproofing Manual, except where more stringent requirements are indicated.

1.6 ACTION SUBMITTALS
- A. Product Data: For each type of product specified.
  1. Include list of materials and data sheets describing physical characteristics and performance criteria for materials proposed for use as well as applicable standards met by each product.

2. Temporary Roofing: Include Product Data and description of temporary roofing system. If temporary roof will remain in place, submit surface preparation requirements needed to receive permanent roof, and submit a letter from roofing membrane manufacturer stating acceptance of the temporary membrane, and that its inclusion will not adversely affect the roofing system's resistance to fire and wind.

B. Shop Drawings: Submit details for this specific project indicating construction at penetrations, terminations, flashings, drains, and tie-in to existing roof.

1.7 INFORMATIONAL SUBMITTALS

A. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by roofing modification operations. Submit before Work begins.
B. Certifications specified in Quality Assurance article.
C. Qualification Data: For Installer, including certificate that Installer is approved by warrantor of existing roofing system.
D. Manufacturer's Installation Instructions: Submit manufacturer’s printed installation instructions for each product.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in the maintenance manuals specified in Division 01.
B. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roof installation.
C. Warranty: Submit specified warranty in accordance with Division 1.

1.9 QUALITY ASSURANCE

A. Applicator Qualifications: Approved by manufacturer for making modifications and repairs to existing warranted roofing prior to execution of this Contract.
   1. Minimum of 5 years documented experience in roofing repairs of this type of roof.
   2. Include list of completed projects having similar scope of work identified by name, location, date, reference name, and phone number.
B. Materials Removal Firm: Company specializing in performing the work of this Section with minimum 5 years documented experience.
C. Certifications:
   1. Submit manufacturer’s certification stating materials ordered and supplied are compatible with existing roofing system and will not void existing warranty.
   2. Submit manufacturer’s project registration form indicating that manufacturer has reviewed Project and will issue or extend existing warranty to cover repairs warranty upon successful completion of installation.
   3. Submit manufacturer’s approval of applicator.
   4. Certify materials shipped to Project site meet roof manufacturer’s published performance standards and requirements of this Specification.
   5. State that membrane manufacturer approves of insulation type and method of installation.
D. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.10 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately below roofing modification area. Conduct roof modifications so Owner's operations will not be disrupted. Provide Owner with not less than 2 weeks notice of activities that may affect Owner's operations.
   1. Coordinate work activities daily with Owner so Owner can place protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area if desired.
   2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated prior to proceeding with work over the impaired deck area.
B. Protect building where roofing is scheduled to be modified, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from modification operations.
C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
D. Owner assumes no responsibility for condition of areas to be modified.
   1. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.

E. Handle and store roofing materials and place equipment in a manner to avoid significant or permanent damage to deck or structural supporting members.
F. Weather Limitations: Proceed with roofing modification work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
   1. Emergency Equipment: Maintain on-site equipment necessary to apply emergency temporary edge seal in the event of sudden storms or inclement weather.
   2. Maintain continuous temporary protection prior to and during installation of new roofing system.
G. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.
   1. Hazardous materials will be removed by Owner before start of the Work. Existing roof will be left no less watertight than before removal.
   2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

1.11 SEQUENCING AND SCHEDULING
A. Schedule work to coincide with commencement of installation of new roofing system.
B. Remove only existing roofing materials that can be replaced with new materials the same day.
C. Coordinate the work with other affected mechanical and electrical work associated with roof penetrations.

1.12 WARRANTY
A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during roof modification work, by methods and with materials so as not to void existing roofing system warranty. Notify warrantor before proceeding.
   1. Notify warrantor of existing roofing system on completion of roofing modifications, and obtain documentation verifying that existing roofing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.
B. If roofing system manufacturer's warranty is no longer in effect on the existing roof system, upon completion of Work and prior to final payment, furnish written warranty signed by installer and Contractor stating that for 2 year period from date of Substantial Completion of Building repairs and maintenance will be made to maintain roofing and flashings in watertight condition.

PART 2 PRODUCTS

2.1 INFILL AND PATCHING MATERIALS
A. Use infill and patching materials, including sheet and adhesive materials, flashings, roof surfacing, fasteners, adhesives, and accessories, matching existing membrane roofing system materials, unless otherwise indicated.

2.2 TEMPORARY ROOFING MATERIALS
A. Selection of materials and design of temporary roofing is responsibility of Contractor. Select only materials that are compatible with existing roofing system. For pipe penetrations, use flashing materials and techniques as recommended by NRCA, utilizing portals mounted to curbs.
B. Base Sheet: ASTM D 4601, Type II, non-perforated, asphalt-impregnated and -coated, glass-fiber sheet.
C. Glass-Fiber Felts: ASTM D 2178, Type IV, asphalt-impregnated, glass-fiber felt.
D. Asphalt Primer: ASTM D 41.
E. Roofing Asphalt: ASTM D 312, Type III or IV.

2.3 RECOVER BOARDS
A. Recover Board: ASTM C 1177, glass-mat, water-resistant gypsum substrate; 1/4 inch thick.
B. Fasteners: Factory-coated steel fasteners, listed in FMG's "Approval Guide," designed for fastening recover boards to deck.

2.4 AUXILIARY MATERIALS
A. General: Auxiliary preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system
B. Insulation: Type used in original roof construction in thickness necessary to achieve satisfactory repair of membrane with no ponded water.
C. Wood Blocking and Nailers: As specified in Division 06.
D. Metal Flashing Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."

E. Mechanical Fasteners and Disks: Appropriate for purpose intended and approved by UL or FM; length required for thickness of materials, fluoropolymer finish complete with disks; manufacturer as required by membrane manufacturer.
F. Ballast (if required): Type required to match existing.

PART 3 EXECUTION

3.1 EXAMINATION
A. Examine substrates, areas, and conditions under which roofing modifications will be performed with Installer present for compliance with requirements.
B. Verify that roof openings and penetrations are in place and set and braced and that roof drains are properly clamped into position.
C. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at roof penetrations and terminations and match the thicknesses of insulation required.
D. Do not proceed with installation until unsatisfactory conditions have been corrected.
E. Do not apply roofing materials to damp, frozen, dirty, dusty or other surface conditions which are unacceptable to manufacturer or applicator.

3.2 PREPARATION
A. Clean substrate of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
B. Prepare roof surfaces as recommended by manufacturer of original installation.
C. Protect existing membrane roofing system that is indicated not to be modified.
1. Loosely lay 1-inch- minimum thick, molded expanded polystyrene (MEPS) insulation over the roofing membrane in areas indicated. Loosely lay 15/32-inch plywood or OSB panels over MEPS. Extend MEPS past edges of plywood or OSB panels a minimum of 1 inch.
2. Limit traffic and material storage to areas of existing roofing membrane that have been protected.
3. Maintain temporary protection and leave in place until replacement roofing has been completed.
D. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with roof modification work that could affect indoor air quality or activate smoke detectors in the ductwork.
E. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
F. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
1. If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
G. Verify that rooftop utilities and service piping have been shut off before commencing Work.

3.3 PROTECTION
A. Protect existing building surfaces against damage from roofing installation.
B. Provide temporary seals to prevent water from entering completed sections of the roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 PARTIAL ROOF REMOVAL
A. Partial Roof Tear-Off: Where indicated, remove existing roofing membrane and other membrane roofing system components down to the deck and as required to allow for proper patching of existing roof, and tie-in to new roofing system.
1. Remove cover boards, roof insulation, and substrate boards.
2. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove unadhered bitumen and felts and wet felts.
3. Remove excess asphalt from steel deck. A maximum of 15 lb/100 sq. ft. of asphalt is permitted to remain on steel decks.
4. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.5 DECK PREPARATION
- A. Inspect deck after partial tear-off of membrane roofing system.
- B. Concrete Decks:
  - 1. Verify that concrete curing compounds that will impair adhesion of roofing components to roof deck have been removed.
  - 2. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 or by pouring 1 pint of hot roofing asphalt on deck at start of each day's work and at start of each roof area or plane. Do not proceed with roofing work if moisture condenses under the plastic sheet or if asphalt test sample foams or can be easily and cleanly stripped after cooling.
  - 3. Do not proceed with installation until after the minimum concrete curing period, and moisture and pH levels are within the acceptable range as recommended by roofing system manufacturer.
- C. Steel Decks: Verify infill deck is properly supported and secured, and that surface plane flatness and fastening of steel roof deck comply with requirements in Division 05 Section "Steel Decking."
  - 1. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch out of plane relative to adjoining deck.
  - 2. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect. Do not proceed with installation until directed by Architect.
- D. If deck surface is not suitable for receiving new roofing, or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.

3.6 INFILL MATERIALS INSTALLATION
- A. Immediately after removal of selected portions of existing membrane roofing system, and inspection and repair, if needed, of deck, fill in the tear-off areas to match existing membrane roofing system construction.
  - 1. Install new roofing membrane patch over roof infill area. If new roofing membrane is installed the same day tear-off is made, roofing membrane patch is not required.

3.7 FLASHING AND REPAIR WORK
- A. General: Perform work in accordance with instructions and recommendations of manufacturer of original installation materials.
- B. Remove loose aggregate from aggregate-surfaced, built-up bituminous roofing with a power broom.
- C. Clean substrate of contaminants such as dirt, debris, oil, and grease that can affect adhesion of roof patching materials.
- D. Cut holes for penetrations neatly and in accordance with Division 01 Section “Cutting and Patching.”
- E. Where continuity of existing fastener pattern has been interrupted by cutting and patching work, provide additional uplift securement for existing roofing system with new screws and plates applied to each roof zone to comply with same wind uplift requirements as specified for new roofing work.
- F. Lay base flashing and seal down to membrane and penetration.
- G. Strip in flashing with multiple layers of felt and bitumen on built-up systems and with one layer of sheet material on single-ply systems.
- H. Counterflash as required.
- I. Make watertight.
- J. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.

3.8 FIELD QUALITY CONTROL
- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
  - 1. Notify Architect and Owner 48 hours in advance of the date and time of inspection.
- B. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

3.9 DISPOSAL
- A. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
  - 1. Storage or sale of demolished items or materials on-site will not be permitted.
- B. Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION

SECTION 071400

FLUID-APPLIED WATERPROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Polyurethane waterproofing.

1.2 RELATED REQUIREMENTS
- A. Section 076200 - Sheet Metal Flashing and Trim: Metal parapet covers, copings, and counterflashings.

1.3 REFERENCE STANDARDS
- A. ASTM C836/C836M - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course 2018 (Reapproved 2022).
- B. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension 2016 (Reapproved 2021).
- C. ASTM D746 - Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact 2020.
- D. ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics 2016 (Reapproved 2023).
- E. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness 2015 (Reapproved 2021).
- F. ASTM D4541 - Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers 2022.
- G. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a, with Editorial Revision (2023).
- H. NRCA (WM) - The NRCA Waterproofing Manual 2021.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for membrane, surface conditioner, flexible flashings, joint cover sheet, and joint and crack sealants.
- C. Shop Drawings: Indicate special joint or termination conditions and conditions of interface with other materials.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and acceptable installation temperatures.
- F. Manufacturer's qualification statement.
- G. Installer's qualification statement.

1.5 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.6 MOCK-UPS
- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Construct mock-up consisting of 100 sq ft of horizontal and vertical fluid-applied waterproofing; to represent finished work including internal and external corners, drainage panel, base flashings, control joints, counterflashings, and protective cover.
- C. Locate where directed.
- D. Mock-up may remain as part of work.

1.7 FIELD CONDITIONS
- A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application and until cured.

1.8 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Installer Warranty: Provide 2-year warranty for waterproofing failing to resist penetration of water commencing on Date of Substantial Completion. Complete forms in Owner's name and register with installer.
- C. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Polyurethane Waterproofing:
  1. Carlisle Coatings & Waterproofing, Inc: www.carlisleccw.com/#sle.
  2. Gaco Western: www.gaco.com/#sle.
  3. Henry Company: www.henry.com/#sle.
  4. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.

2.2 FLUID-APPLIED WATERPROOFING MATERIALS
- A. Polyurethane Waterproofing: Cold-applied, high solids content polyurethane waterproofing complying with ASTM C836/C836M.
  1. Cured Thickness: 60 mil, 0.060 inch, minimum.
  2. Suitable for installation over concrete substrates.
  3. Components: One or two.
  4. Tensile Strength: 400 psi, minimum, measured in accordance with ASTM D412.
  5. Ultimate Elongation: 168 percent, minimum, measured in accordance with ASTM D412.
  6. Durometer Hardness, Type A: 30, minimum, in accordance with ASTM D2240.
  7. Permeance: 0.51 perm, maximum, measured in accordance with ASTM E96/E96M.
  8. Adhesion: 150 psi, minimum, measured in accordance with ASTM D4541.
  9. Brittleness Temperature: Based on minus 50 degrees F, measured in accordance with ASTM D746.
  10. Products:
    - a. Carlisle Coatings & Waterproofing, Inc; CCW 703 Liquiseal: www.carlisleccw.com/#sle.
    - b. Gaco Western; GacoFlex LM-60: www.gaco.com/#sle.
    - c. Henry Company; Prodeq System - Spray-Applied, Instant Setting Waterproofing System: www.henry.com/#sle.
    - d. Tremco Commercial Sealants & Waterproofing; TREMproof 250GC: www.tremcosealants.com/#sle.

2.3 ACCESSORIES
- A. Surface Conditioner: Compatible with membrane compound; as recommended by membrane manufacturer.
- B. Sealant for Joints and Cracks in Substrate: Type compatible with waterproofing material and as recommended by waterproofing manufacturer.
- C. Tack-Reducing Surfacing: Portland cement, Type 1.
- D. Brushed-On Coating: Cold-applied elastomeric coating that provides waterproofing, corrosion protection, and weather resistance.
- E. Reinforcing Fabric for Between Liquid Applied Membranes (LAM): Polyester fabric, unsaturated spun bond and nonwoven, used as reinforcement between LAM waterproofing systems.
  1. Thickness: 9.5 mil, 0.0095 inch, minimum.
- F. Protection Board: Provide type capable of preventing damage to waterproofing due to backfilling and construction traffic.
- G. Drainage Panel: Drainage layer with geotextile filter fabric on earth side.
  1. Composition: Dimpled polyethylene or polypropylene core; polypropylene or polyester filter fabric.
  2. Thickness: As indicated on drawings.
  3. Core Compressive Strength: 15,000 psf, minimum, in accordance with ASTM D1621
- H. Cant Strips: Premolded composition material.
- I. Counterflashings: See Section 076200.
- J. Counterflashings: As recommended by membrane and protection board manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify existing conditions before starting work.
- B. Verify substrate surfaces are free of frozen matter, dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of waterproofing system.
- C. Verify that substrate surfaces are smooth, free of honeycomb or pitting, and not detrimental to full contact bond of waterproofing materials.
- D. Verify that items penetrating surfaces to receive waterproofing are securely installed.
- E. Where existing conditions are responsibility of another installer, notify Architect of unsatisfactory conditions.
- F. Do not proceed with this work until unsatisfactory conditions have been corrected.

3.2 PREPARATION
- A. Protect adjacent surfaces from damage not designated to receive waterproofing.
- B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions; vacuum substrate clean.
- C. Do not apply waterproofing to surfaces unacceptable to waterproofing manufacturer.
- D. Fill non-moving joints and cracks with a filler compatible with waterproofing materials.
- E. Seal moving cracks with sealant and non-rigid filler, using procedures recommended by sealant and waterproofing manufacturers.
- F. Install cant strips at inside corners.

3.3 INSTALLATION
- A. Install waterproofing to specified minimum thickness in accordance with manufacturers instructions and NRCA (WM) applicable requirements.
- B. Apply primer or surface conditioner at a rate recommended by manufacturer, and protect conditioner from rain or frost until dry.
- C. At joints and cracks less than 1/2 inch in width including joints between horizontal and vertical surfaces, apply 12 inch wide strip of joint cover sheet.
- D. Center joint cover sheet over joints, roll sheet into 1/8 inch thick coating of waterproofing material and apply second coat over sheet extending at least 6 inches beyond sheet edges.
- E. Extend membrane over cants and up intersecting surfaces at membrane perimeter minimum 6 inches above horizontal surface for first ply and 4 inches at subsequent plies laid in shingle fashion.
- F. Apply extra thickness of waterproofing material at corners, intersections, and angles.
- G. Flexible Flashings: Seal items watertight that penetrate through waterproofing membrane with flexible flashings.
- H. Seal membrane and flashings to adjoining surfaces.
  1. Install termination bar along edges.
  2. Install counterflashing over exposed edges.

3.4 INSTALLATION - DRAINAGE PANEL AND PROTECTION BOARD
- A. Immediately after curing, dust membrane with tack-reducing surfacing at rate of approximately 10 lb/100 sq ft.
- B. Place drainage panel directly against membrane, butt joints, place to encourage drainage downward, and scribe and cut boards around projections, penetrations, and interruptions.
- C. Place protection board directly against drainage panel; butt joints, and scribe and cut boards around projections, penetrations, and interruptions.

3.5 FIELD QUALITY CONTROL
- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Owner will provide testing services, and Contractor to provide temporary construction and materials for testing.
- C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.
- D. Upon completion of horizontal membrane installation, dam installation area in preparation for flood testing.
  1. Flood to minimum depth of 1 inch with clean water, and after 48 hours inspect for leaks.
  2. If leaking is found, remove water, repair leaking areas with new waterproofing materials as directed by Architect; repeat flood test, and repair damage to building.
  3. When area is proven watertight, drain water and remove dam.

3.6 PROTECTION

A. Do not permit traffic over unprotected or uncovered membrane.

END OF SECTION

SECTION 072100

THERMAL INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Batt insulation in interior and exterior wall and ceiling construction.
- B. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.2 REFERENCE STANDARDS
- A. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing 2023.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.
- C. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C 2022.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

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

PART 2 PRODUCTS

2.1 APPLICATIONS
- A. Insulation in Wood Framed Walls: Batt insulation with no vapor retarder.

2.2 BATT INSULATION MATERIALS
- A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
  1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.
  2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
  3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
  4. Formaldehyde Content: Zero.
  5. Facing: Unfaced.
  6. Manufacturers:
     - a. CertainTeed Corporation: www.certainteed.com/#sle.
     - b. Johns Manville: www.jm.com/#sle.
     - c. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
     - d. Substitutions: See Section 016000 - Product Requirements.
- B. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
  1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
  2. Manufacturers:
     - a. Johns Manville: www.jm.com/#sle.
     - b. Knauf Insulation: www.knaufinsulation.com/#sle.
     - c. Thermafiber, Inc: www.thermafiber.com/#sle.
     - d. ROCKWOOL (ROXUL, Inc): www.rockwool.com/#sle.
     - e. Substitutions: See Section 016000 - Product Requirements.
- C. Flexible Blanket Insulation: Thin profile insulation that complies with complex shapes, unfaced; flame spread index of 5 (five) and smoke development index of 10 (ten) or less when tested in accordance with ASTM E84.

1. Color: Gray.
2. Thickness: 3/8 inch.
3. Manufacturers:
   a. Dow Chemical Company; HPI-1000 Insulation Blanket: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   b. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.2 BATT INSTALLATION
A. Install insulation in accordance with manufacturer's instructions.
B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
C. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

3.3 FIELD QUALITY CONTROL
A. See Section 014000 - Quality Requirements, for additional requirements.

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

END OF SECTION

SECTION 075600

FLUID-APPLIED ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Fluid-applied roofing materials.
- B. Accessories.

1.2 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturer's data for membrane and accessory materials.
- C. Shop Drawings: Indicate special joint or termination conditions and conditions of interface with other materials.
- D. Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Include standard installation instructions, acceptable installation temperature range, and procedures for unusual perimeter conditions.
- F. Manufacturer's qualification statement.
- G. Installer's qualification statement.
- H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.3 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacture of fluid-applied roofing or waterproofing systems.
  - 1. Three years' documented experience manufacturing type of product specified.
- B. Installer Qualifications: Company specializing in installation of fluid-applied roofing or waterproofing systems.
  - 1. Approved by roofing manufacturer.
  - 2. Five years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- B. Store materials in weather protected environment, clear of ground and moisture.
- C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

1.5 FIELD CONDITIONS
- A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application and until cured.
- B. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.6 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Provide five year manufacturer warranty that roofing membrane will not crack, split, or flake under normal weather conditions and will not fail to resist penetration of water during that time period.
  - 1. Hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Fluid-Applied Roofing:
  - 1. Liquiform Technologies, Inc.; WeatherWeld: weatherweld.com.
  - 2. Substitutions: Not permitted.

2.2 MATERIALS
- A. Fluid-Applied Roofing: White, cold-applied; single-component; asphalt-based, approved by manufacturer for permanent exposure to weather and sunlight.
  1. Coverage: 30 gallons per 100 s.f.
  2. Suitable for installation over metal, concrete, built-up bituminous, and single-ply sheet roofing substrates.
  3. Tensile Strength: 175 psi, minimum, measured in accordance with ASTM D412.
  4. Ultimate Elongation: 140 percent, measured in accordance with ASTM D412.
  5. Durometer Hardness, Type A: 40 to 50, minimum, in accordance with ASTM D2240.
- B. Fiberglass Reinforcing: Broadcast application.
  1. Coverage: 16 lbs. per 100 s.f.

2.3 COVER BOARDS
- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
  1. Thickness: 1/2 inch.
  2. Products:
     - a. Georgia-Pacific; DensDeck: www.densdeck.com/#sle.
     - b. Substitutions: See Section016000-Product Requirements.

2.4 INSULATION
- A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
  1. Classifications:
     - a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
       - 1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
       - 2) Compressive Strength: Classes 1-2-3, Grade 1, 16 psi (110 kPa), minimum.
       - 3) Thermal Resistance, R-value: At 1-1/2 inches thick; Class 1, Grades 1-2-3, 8.4 (1.48), minimum, at 75 degrees F.
  2. Board Size: 48 by 96 inches.
  3. Board Thickness: 1.5 inches.
  4. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.

2.5 ACCESSORIES
- A. Flexible Flashing Sheet: Neoprene or other elastic type sheets approved by roofing membrane manufacturer.
- B. Cant Strips: Premolded composition material, compatible with roofing membrane.
- C. Counterflashings: As recommended by roofing manufacturer.
- D. Primer: Manufacturer's standard primer as recommended.
- E. Roof Coating: Acrylic base and topcoats, manufacturer's standard.
  1. Coverage: 1.5 gallons per 100 s.f., each coat.
- F. Aggregate for Walkways: Silica sand, sieve size between 20 and 60; or other aggregate approved by roofing manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify existing conditions prior to starting this work.
- B. Verify substrate surfaces are free of frozen matter, dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of roofing system.
- C. Verify that substrate surfaces are smooth, free of honeycombs or pitting, and not detrimental to full contact bond of roofing materials.
- D. Verify that roof openings, curbs, and items that penetrate surfaces to receive roofing materials are securely and properly installed.

3.2 PREPARATION
- A. Clean and prepare surfaces to receive roofing in accordance with manufacturer's instructions and recommendations.

B. Seal cracks and non-moving open joints less than 1/2 inch wide with sealant using methods recommended by roofing and sealant manufacturers; do not seal expansion joints or moving joints of any width.
C. Install cant strips at inside corners, where indicated and where required by roofing manufacturer.
D. Protect adjacent surfaces not designated to receive roofing.

3.3 INSTALLATION
A. Install fluid-applied roofing in accordance with manufacturer's instructions and recommendations, to specified minimum thickness.
B. Apply roofing materials to surfaces that are acceptable to manufacturer.
C. Install insulation and cover boards per manufacturer's instructions.
1. Install insulation and cover boards in one process, mechanically fasten cover board through insulation into roof deck.
D. Apply primer or surface conditioner at a rate recommended by manufacturer, and protect surface conditioner from rain or frost until dry.
E. Installations Over Sealant-Filled Joints: Install an extra coating of roofing material over joints at least 6 inches on each side of joint.
F. Joint Cover Assembly: Install at expansion joints, moving joints 1/2 inch wide or wider, and joints between horizontal and vertical surfaces.
1. Use flexible flashing sheet wide enough to extend 6 inches on both sides of joint with a loop of sheet extended down into the joint to a depth at least the width of the joint.
2. Embed sheet in one coat of fluid-applied roofing material.
3. Before installing the remainder of the roofing material, install a compressible joint sealer backer rod into joint above loop to prevent roofing material from filling loop.
G. Penetrations: Unless otherwise indicated on drawings, or recommended by roofing manufacturer, seal flexible flashing sheet around penetrations and to roofing substrate prior to installation of roofing material, embedding flashing sheet in one coat of roofing material.
H. Applying to Vertical Surfaces: Extend fluid-applied roofing material at least 6 inches above horizontal roofing surfaces.
I. Embedded Flexible Flashing Sheet: Apply full thickness of roofing material over exposed flashing sheet.
J. Roof Drains: Unless otherwise recommended by roofing manufacturer, set drain flange in one coating of roofing material and extend a full thickness of roofing material onto drain clamp flange, with adequate coating of roofing material to ensure waterproof seal of clamp ring.
K. Apply extra thickness of roofing material at corners, intersections, and angles, when recommended by roofing manufacturer.
L. Install roof coating per manufacturer's instructions.
M. Walkways: Install broadcast aggreegate for walkways per manufacturer's instructions.
N. Install counterflashing over exposed edges, where indicated on drawings.

3.4 FIELD QUALITY CONTROL
A. See Section 014000 - Quality Requirements for additional requirements.

3.5 PROTECTION
A. Protect installed roofing and flashings from construction operations.
B. Where traffic must proceed over installed roofing materials, protect surfaces using durable materials acceptable to roofing material manufacturer.

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Fabricated sheet metal items, including flashings and counterflashings.
- B. Sealants for joints within sheet metal fabrications.
- C. Precast concrete splash pads.

1.2 REFERENCE STANDARDS
- A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- C. ASTM B32 - Standard Specification for Solder Metal 2020.
- D. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.
- E. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.
- F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.
- G. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing 2017 (Reapproved 2023).
- H. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free 2007 (Reapproved 2018).
- I. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).
- J. CDA A4050 - Copper in Architecture - Handbook current edition.
- K. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Preinstallation Meeting: Convene one week before starting work of this section.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Color Chart: Manufacturer’s standard prefinished product charts showing actual physical coating for prefinished items.

1.5 QUALITY ASSURANCE
- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with five years of documented experience.
- C. Provide products that have been tested to resist wind uplift as required by ANSI/SPRI ES-1.

1.6 **DELIVERY, STORAGE, AND HANDLING**
- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 SHEET MATERIALS
- A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239) inch thick base metal, shop pre-coated with PVDF coating.
  1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
  2. Color: As selected by Architect from manufacturer's standard colors.

B. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gage, (0.0156 inch) thick; smooth No. 4 - Brushed finish.

2.2 FABRICATION
A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
B. Form pieces in longest possible lengths.
C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
F. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

2.3 GUTTER AND DOWNSPOUT FABRICATION
A. Downspouts: Rectangular profile.
B. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 10 years in accordance with SMACNA (ASMM).
C. Parapet Scuppers: Fabricate scuppers of dimensions required with closure flange trim to exterior, 4-inch-(100-mm-) wide wall flanges to interior, and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fabricate from the following materials:
1. Prefinished galvanized steel.
D. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape indicated complete with outlet tubes, exterior flange trim, and built-in overflows. Fabricate from the following materials:
1. Prefinished galvanized steel.
E. Accessories: Profiled to suit gutters and downspouts.
1. Anchorage Devices: In accordance with SMACNA (ASMM) requirements.
2. Downspout Supports: Brackets.
F. Splash Pads: Precast concrete type, of size and profiles indicated; minimum 3000 psi at 28 days, with minimum 5 percent air entrainment.
G. Seal metal joints.

2.4 ACCESSORIES
A. Fasteners: Galvanized steel, with soft neoprene washers.
B. Self-Adhering, High-Temperature Sheet Underlayment: Minimum 30 to 40 mils (0.76 to 1.0 mm) thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
1. Products:
a. Carlisle Coatings & Waterproofing Inc.; CCW WIP 300HT.
b. GCP Applied Technologies; Grace Ultra.
c. Henry Company; Blueskin PE200 HT.
C. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F (116 deg C).
D. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C).
E. Primer: Zinc chromate type.
F. Protective Backing Paint: Asphaltic mastic, ASTM D4479 Type I.
G. Concealed Sealants: Non-curing butyl sealant.
H. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.
I. Plastic Cement: ASTM D4586/D4586M, Type I.
J. Reglets: Surface mounted type, galvanized steel; face and ends covered with plastic tape.
K. Solder: ASTM B32; Sn50 (50/50) type.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION
A. Install starter and edge strips, and cleats before starting installation.
B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.3 INSTALLATION
A. Comply with drawing details.
B. Insert flashings into reglets to form tight fit; secure in place with lead wedges; pack remaining spaces with lead wool; seal flashings into reglets with sealant.
C. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..
D. Apply plastic cement compound between metal flashings and felt flashings.
E. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
F. Seal metal joints watertight.
G. Secure gutters and downspouts in place with concealed fasteners.
H. Set splash pads under downspouts.

3.4 FIELD QUALITY CONTROL
A. See Section 014000 - Quality Requirements, for field inspection requirements.
B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 076210

FLEXIBLE FLASHING

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. Formed Products: Concealed flashing within wall assemblies to protect and shed incidental water to the exterior.

1.3 PERFORMANCE REQUIREMENTS
- A. General: Flashing and trim assemblies as indicated shall withstand structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Thermal Movements: Provide sheet metal flashing and trim that allows for thermal movements from ambient and surface temperature changes.
- C. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 SUBMITTALS
- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.
- B. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Do not store flashing materials in contact with other materials that might cause staining, denting, or other surface damage. Store flashing materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

PART 2 - PRODUCTS

2.1 FLEXIBLE FLASHING
- A. Self-Adhesive flexible flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 40 mils.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Advanced Building Products Inc.; Strip-N-Flash.
    - b. Carlisle Coatings & Waterproofing; CCW-705 Air & Vapor Barrier Strips.
    - c. Grace Construction Products; Perm-A-Barrier Detail Membrane.
    - d. Henry; Blueskin SA

2.2 **THROUGH-WALL FLASHING**
- A. Self-Adhesive through-wall flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 40 mils.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Advanced Building Products Inc.; Strip-N-Flash.
    - b. Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
    - c. Grace Construction Products; Perm-A-Barrier Wall Flashing.

d. Henry; Blueskin TWF Thru-Wall Flashing

2.3 HIGH TEMPERATURE FLASHING

A. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by manufacturer.
   1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F.
   2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F.
   3. Products: Subject to compliance with requirements, provide one of the following:
      a. Carlisle Coatings & Waterproofing Inc.; CCW WIP 300HT.
      b. Grace Construction Products, a unit of W. R. Grace & Co.; Ultra.
      c. Henry Company; Blueskin PE200 HT.
      d. Owens Corning; WeatherLock Metal High Temperature Underlayment.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, separators, sealants, and other miscellaneous items as required for complete metal flashing installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
B. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.
   1. Verify compliance with requirements for installation tolerances of substrates.
   2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FLASHING INSTALLATION

A. General: Install as indicated on Drawings and per Manufacturer's recommendations.
B. Self-Adhering Sheet Flashing: Install self-adhering sheet flashing, wrinkle free. Apply primer if required by flashing manufacturer. Comply with temperature restrictions of flashing manufacturer for installation. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover flashing with subsequent construction within 14 days.
C. Location:
   1. Flexible Flashing: As indicated on drawings, or at all exterior windows, doors or other penetrations where high temperature flashing is not required.
   2. Through-Wall Flashing: As indicated on drawings, or at all masonry cavity wall conditions requiring flashing (head of windows, doors, openings, shelf angles, base of wall).
   3. High Temperature Flashing: As indicated on drawings, or at all locations where flashing will be in contact with metal coping or metal panels where high temperatures exist.

END OF SECTION

SECTION 077100

ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Manufactured roof specialties, including copings.
- B. Roof control and expansion joint covers.

1.2 REFERENCE STANDARDS
- A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.
- B. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems 2022.
- C. NRCA (RM) - The NRCA Roofing Manual 2023.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.
- C. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.
- D. Samples: Submit two appropriately sized samples of coping and fascia.
- E. Manufacturer's Installation Instructions: Indicate special procedures, fasteners, supporting members, and perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Roof Edge Flashings and Copings:
  1. Architectural Products Co: www.archprod.com/#sle.
  2. ATAS International, Inc: www.atas.com/#sle.
  3. Metal-Era Inc: www.metalera.com/#sle.
  4. Substitutions: See Section 016000 - Product Requirements.
- B. Control and Expansion Joint Covers:
  1. GAF: www.gaf.com/#sle.
  2. Johns Manville: www.jm.com/#sle.
  3. MM Systems Corp: www.mmsystemscorp.com/#sle.
  4. Substitutions: See Section 016000 - Product Requirements.

2.2 COMPONENTS
- A. Copings: Factory fabricated to sizes required; mitered, welded corners; concealed fasteners.
  1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness and finish as cap; concealed stainless steel fasteners.
  2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
  3. Material: Formed steel sheet, galvanized, 24 gage, 0.024 inch thick, minimum.
  4. Finish: 70 percent polyvinylidene fluoride.
  5. Color: To be selected by Architect from manufacturer's standard range.
- B. Control Joint Covers: Composite construction of 1 inch wide flexible EPDM flashing of white color with closed cell urethane foam backing, each edge seamed to aluminum sheet metal flanges, designed for nominal joint width of 1 inch. Include special formed corners, tees, intersections, and wall flashings, each sealed watertight.
- C. Pipe and Penetration Flashing: Base of rounded aluminum, compatible with sheet metal roof systems, and capable of accomodating pipes sized between 3/8 inch and 12 inch.
  1. Caps: EPDM.
  2. Color: As selected by Architect.

2.3 FINISHES
A. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as indicated.

2.4 ACCESSORIES
A. Sealant for Joints in Linear Components: As recommended by component manufacturer.
B. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils ()thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F.
2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F.
3. Products: Subject to compliance with requirements, provide one of the following:
a. Carlisle Coatings & Waterproofing; CCW WIP 300HT.
b. Grace Construction Products, a unit of W. R. Grace & Co.; Ince and Water Shield HT.
c. Henry Company; Blueskin PE200 HT.
C. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.
D. Roof Cement: ASTM D4586/D4586M, Type I.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.
1. Refer to Section 077200 for information on roofing related accessories.

3.2 INSTALLATION
A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
B. Seal joints within components when required by component manufacturer.
C. Anchor components securely.
D. Comply with NRCA (RM) drawing details as noted:
E. Coordinate installation of components of this section with installation of roofing membrane and base flashings.
F. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.
G. Coordinate installation of flashing flanges into reglets.

END OF SECTION

SECTION 077200

ROOF ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Curbs.
- B. Equipment rails.
- C. Roof penetrations mounting curbs.
- D. Roof hatches.

1.2 REFERENCE STANDARDS
- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.
- C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- E. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018, with Amendment (2019).

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used.
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
  4. Maintenance requirements.
- C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.
  1. Non-penetrating Rooftop Supports: Submit design calculations for loadings and spacings.
  2. Submit shop drawings sealed and signed by a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
- D. Certificate: For smoke hatches, provide certificate of approval from authority having jurisdiction.
- E. Warranty Documentation:
  1. Submit manufacturer warranty.
  2. Ensure that forms have been completed in Owner's name and registered with manufacturer.
  3. Submit documentation that roof accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products under cover and elevated above grade.

1.5 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty for materials and workmanship.

PART 2 PRODUCTS

2.1 ROOF CURBS
- A. Manufacturers:
  1. AES Industries Inc: www.aescurb.com/#sle.
  2. The Pate Company: www.patecurbs.com/#sle.
  3. LMCurbs; Roof Curbs: www.lmcurbs.com/#sle.

4. Roof Products & Systems (RPS): www.rpscurbs.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.

B. Roof Curbs Mounting Assemblies: Factory fabricated hollow sheet metal construction, internally reinforced, and capable of supporting superimposed live and dead loads and designated equipment load with fully mitered and sealed corner joints welded or mechanically fastened, and integral counterflashing with top and edges formed to shed water.
1. Applications: Roof curbs used for roof penetrations/openings as indicated on drawings.
2. Roof Curb Mounting Substrate: Curb substrate consists of flat roof deck sheathing with insulation.
3. Sheet Metal Material:
a. Galvanized Steel: Hot-dip zinc coated steel sheet complying with ASTM A653/A653M, SS Grade 33; G60 coating designation; 18 gage, 0.048 inch thick.
1) Finish: Factory primed.
2) Color: As selected by Architect from manufacturer's standard line of colors.
4. Roofing Cants: Provide integral sheet metal roofing cants dimensioned to begin slope at top of roofing system at 1:1 slope; minimum cant height 4 inches.
5. Fabricate curb bottom and mounting flanges for installation directly on metal roof panel system to match slope and configuration of system.
a. Extend side flange to next adjacent roof panel seam and comply with seam configurations and seal connection, providing at least 6 inch clearance between curb and metal roof panel flange allowing water to properly flow past curb.
b. Where side of curb aligns with metal roof panel flange, attach fasteners on upper slope of flange to curb connection allowing water to flow past below fasteners, and seal connection.
c. Maintain at least 12 inch clearance from curb, and lap upper curb flange on underside of down sloping metal roof panel, and seal connection.
d. Lap lower curb flange overtop of down sloping metal roof panel and seal connection.
6. Provide layouts and configurations indicated on drawings.

C. Curbs Adjacent to Roof Openings: Provide curb on each side of opening, with top of curb horizontal for equipment mounting.
1. Provide preservative treated wood nailers along top of curb.
2. Insulate inside curbs with 1-1/2 inch thick fiberglass insulation.
3. Height Above Finished Roof Surface: 8 inches, minimum.

D. Equipment Rail Curbs: Straight curbs on each side of equipment, with top of curbs horizontal and level with each other for equipment mounting.

E. Pipe, Duct, or Conduit Mounting Curbs: Vertical posts, minimum 8 inches square unless otherwise indicated.
1. Provide preservative treated wood nailers over entire top surface, for supports that are provided by others.
2. Height Above Finished Roof Surface: 8 inches, minimum.

2.2 ROOF HATCHES AND VENTS

A. Roof Hatch Manufacturers:
1. Acudor Products Inc: www.acudor.com/#sle.
2. Babcock-Davis: www.babcockdavis.com/#sle.
3. BILCO Company: www.bilco.com/#sle.
4. LMCurbs: www.lmcurbs.com/#sle.
5. Milcor, Inc: www.milcorinc.com/#sle.
6. Nystrom, Inc: www.nystrom.com/#sle.
7. Substitutions: See Section 016000 - Product Requirements.

B. Roof Hatches: Factory-assembled aluminum frame and cover, complete with operating and release hardware.
1. Style: Provide flat metal covers unless otherwise indicated.
2. Mounting Substrate: Provide frames and curbs suitable for mounting on corrugated metal roof deck with insulation.
3. Thermally Broken Hatches: Added insulation to frame and cover; available in each manufacturer's standard, single leaf sizes; special sizes available upon request
4. Size: As indicated on drawings; single-leaf style unless indicated as double-leaf.
5. For Ladder Access: Single leaf; 30 by 54 inches inches, minimum.

C. Frames and Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
D. Thermally broken curb and frame unit with integral cap flashing to receive roof flashings; extend bottom flange to suit mounting.
   1. Material: Galvanized steel, 14 gage, 0.0747 inch thick.
   2. Material: Mill finished aluminum, 11 gage, 0.0907 inch thick.
   3. Insulation: Manufacturer's standard; 1 inch rigid glass fiber, located on outside face of curb.
   4. Curb Height: 12 inches from surface of roof deck, minimum.
E. Metal Covers: Flush, insulated, hollow metal construction.
   1. Capable of supporting 40 psf live load.
   2. Insulation: Manufacturer's standard 1 inch rigid glass fiber.
   3. Gasket: Neoprene, continuous around cover perimeter.
F. Safety Railing System: Manufacturer's standard accessory safety rail system mounted directly to curb.
   1. Comply with 29 CFR 1910.23, with a safety factor of two.
   2. Posts and Rails: Aluminum tube.
   3. Gate: Same material as railing; automatic closing with latch.
   4. Finish: Manufacturer's standard, factory applied finish.
   5. Gate Hinges and Post Guides: ASTM B221 (ASTM B221M), 6063 alloy, T5 temper aluminum.
   6. Mounting Brackets: Hot dipped galvanized steel, 1/4 inch thick, minimum.
   7. Fasteners: Stainless steel, Type 316.
G. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
   1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
   2. Hinges: Heavy duty pintle type.
   3. Hold open arm with vinyl-coated handle for manual release.
   4. Latch: Upon closing, engage latch automatically and reset manual release.
   5. Manual Release: Pull handle on interior.
   6. Locking: Padlock hasp on interior.

2.3 NON-PENETRATING ROOFTOP SUPPORTS/ASSEMBLIES
A. Non-Penetrating Rooftop Support/Assemblies: Manufacturer-engineered and factory-fabricated, with pedestal bases that rest on top of roofing membrane, and not requiring any attachment to roof structure and not penetrating roofing assembly.
   1. Design Loadings and Configurations: As required by applicable codes.
   2. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
   3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
   4. Hardware, Bolts, Nuts, and Washers: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A153/A153M.
B. Pipe Supports: Provide attachment fixtures complying with MSS SP-58 and as indicated.
   1. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports; corrosion resistant material.
   2. See relevant piping system specification section for additional requirements.

PART 3 EXECUTION

3.1 EXAMINATION
A. Do not begin installation until substrates have been properly prepared.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
A. Clean surfaces thoroughly prior to installation.
B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.3 INSTALLATION
A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.4 CLEANING
A. Clean installed work to like-new condition.

3.5 PROTECTION
A. Protect installed products until completion of project.
B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 078400

FIRESTOPPING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Firestopping systems.
- B. Firestopping of all joints and penetrations in fire resistance rated and smoke resistant assemblies, and other openings indicated.

1.2 REFERENCE STANDARDS
- A. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems 2020a.
- B. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers 2020a.
- C. UL (FRD) - Fire Resistance Directory Current Edition.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.
- C. Product Data: Provide data on product characteristics, performance ratings, and limitations.
- D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- F. Certificate from authority having jurisdiction indicating approval of materials used.
- G. Installer Qualification: Submit qualification statements for installing mechanics.

1.4 QUALITY ASSURANCE
- A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
  1. Listing in UL (FRD) will be considered as constituting an acceptable test report.
  2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icc-es.org will be considered as constituting an acceptable test report.
  3. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.
- 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.
  3. Verification of at least five satisfactorily completed projects of comparable size and type.
  4. Licensed by local authorities having jurisdiction (AHJ).

1.5 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.
- B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.1 FIRESTOPPING - GENERAL REQUIREMENTS
- A. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

2.2 FIRESTOPPING SYSTEMS
- A. Firestopping: Any material meeting requirements of approved assembly.

2.3 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.

C. Elastomeric Silicone Firestopping: Single component silicone elastomeric compound and compatible silicone sealant.
   1. Manufacturers:
      a. A/DFire Protection Systems Inc: www.adfire.com.
      b. 3M Fire Protection Products: www.3m.com/firestop.
      c. Hilti, Inc: www.us.hilti.com.
      d. Specified Technologies, Inc: www.stifirestop.com.
      e. Substitutions: See Section 016000 - Product Requirements.

D. Foam Firestoppping: Single component silicone foam compound.
   1. Manufacturers:
      a. 3M Fire Protection Products: www.3m.com/firestop.
      b. Hilti, Inc: www.us.hilti.com.
      c. Specified Technologies, Inc: www.stifirestop.com.
      d. Substitutions: See Section 016000 - Product Requirements.

E. Fibered Compound Firestopping: Formulated compound mixed with incombustible non-asbestos fibers.
   1. Manufacturers:
      a. A/DFire Protection Systems Inc: www.adfire.com.
      b. USG: www.usg.com.
      c. Substitutions: See Section 016000 - Product Requirements.

F. Fiber Firestopping: Mineral fiber insulation used in conjunction with elastomeric surface sealer forming airtight bond to opening.
   1. Manufacturers:
      a. A/DFire Protection Systems Inc: www.adfire.com.
      b. Pecora Corporation: www.pecora.com.
      c. Thermafiber, Inc: www.thermafiber.com.
      d. Substitutions: See Section 016000 - Product Requirements.

G. Firestop Devices - Wrap Type: Mechanical device with incombustible filler and sheet stainless steel jacket, intended to be installed after penetrating item has been installed.
   1. Manufacturers:
      a. RectorSeal: www.rectorseal.com.
      b. 3M Fire Protection Products: www.3m.com/firestop.
      c. Hilti, Inc: www.us.hilti.com.
      d. Specified Technologies, Inc: www.stifirestop.com.
      e. Substitutions: See Section 016000 - Product Requirements.

H. Intumescent Putty: Compound that expands on exposure to surface heat gain.
   1. Manufacturers:
      a. RectorSeal: www.rectorseal.com.
      b. 3M Fire Protection Products: www.3m.com/firestop.
      c. Hilti, Inc: www.us.hilti.com.
      d. Specified Technologies, Inc: www.stifirestop.com.
      e. Substitutions: See Section 016000 - Product Requirements.

I. Reusable Firestopping: Removable intumescent compressible shapes, pillows, or blocks specifically tested in removable configuration.
   1. Manufacturers:
      a. RectorSeal: www.rectorseal.com.
      b. Hilti, Inc: www.us.hilti.com.
      c. Nelson FireStop Products: www.nelsonfirestop.com.
      d. Specified Technologies, Inc: www.stifirestop.com.
      e. Substitutions: See Section 016000 - Product Requirements.

J. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.
   1. Use only components specified by through-penetration firestop system manufacturer and approved by the qualified testing and inspecting agency for firestop systems indicated.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify openings are ready to receive the work of this section.

3.2 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.
C. Install backing materials to prevent liquid material from leakage.

3.3 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 authorities having jurisdiction.
C. Install labeling required by code.

3.4 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.

3.5 CLEANING
A. Clean adjacent surfaces of firestopping materials.

3.6 PROTECTION
A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

SECTION 079005

JOINT SEALERS

PART 1 - GENERAL

1.1 SECTION INCLUDES
- A. Sealants and joint backing at the juncture of all dis-similar materials.
- B. Pre-compressed foam sealers.

1.2 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate the work with other sections referencing this section.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Samples: Submit one sample for each Designation and color of joint sealant required. Samples shall be installed in 1/2 inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Compatibility and Adhesion Test Reports: Submit reports from joint sealant manufacturer indicating:
  1. Materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants.
  2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- E. Manufacturer's Installation Instructions: Indicate special procedures.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years experience.
- C. Do not apply sealants if ambient or substrate temperatures are below 40 degrees and rising.

1.5 FIELD CONDITIONS
- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.6 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective workmanship within a five-year period after Date of Substantial Completion.
- C. Correct defective materials for 5 years for urethane sealants and 20 years for silicone sealants.
- D. 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

2.1 MANUFACTURERS
- A. Silicone Sealants:
  1. Bostik Inc: www.bostik-us.com.
  2. Master Builders Solutions: www.master-builders-solutions.com.
  3. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com.
  4. Pecora Corporation: www.pecora.com.
  5. Tremco Global Sealants: www.tremcosealants.com.
  6. Substitutions: See Section 01 6000 - Product Requirements.
- B. Polyurethane Sealants:
  1. Bostik Inc: www.bostik-us.com.
  2. Master Builders Solutions: www.master-builders-solutions.com.
  3. Pecora Corporation: www.pecora.com.

4. 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. Acrylic Emulsion Latex Sealants:
1. Bostik Inc: www.bostik-us.com.
2. Master Builders Solutions: www.master-builders-solutions.com.
3. Pecora Corporation: www.pecora.com.
4. Tremco Global Sealants: www.tremcosealants.com.
5. Substitutions: See Section 01 6000 - Product Requirements.

E. Preformed Compressible Foam Sealers:
1. EMSEAL Joint Systems, Ltd: www.emseal.com.
2. Hohmann & Barnard: wwwh-b.com.
3. Dayton Superior Corporation: www.daytonsuperior.com.
4. Tremco Global Sealants: www.tremcosealants.com.
5. Substitutions: See Section 016000 - Product Requirements.

2.2 SEALANTS

A. Designation AL-A - Acoustical Sealant: Butyl or acrylic sealant; ASTM C 920, Grade NS, Class 12-1/2, Uses M and A; single component, solvent release curing, non-skinning.
1. Product: BA-98 manufactured by Pecora.

B. Designation AL - Acrylic Sealant: ASTM C 920, Grade NS, Class 12-1/2, Uses NT, M, A, O; single component, solvent curing, non-staining, non-bleeding, non-sagging.
1. Color: Standard colors matching finished surfaces.
2. Product: MasterSeal NP 520 manufactured by Master Builders Solutions.
3. Movement Capability: Plus and minus 12-1/2 percent.
4. Service Temperature Range: -13 to 180 degrees F.
5. Shore A Hardness Range: 25 to 50.
6. Applications: Use for:

C. Designation U-MC - Non-sag Polyurethane Sealant: ASTM C 920, Grade NS, Class 25, Uses NT, I, M, A, G, O; single component, chemical curing, non-staining, non bleeding, capable of continuous water immersion, non-sagging Designation.
1. Color: Standard colors matching finished surfaces.
2. Product: MasterSeal NP-2 manufactured by Master Builders Solutions.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -40 to 180 degrees F.
5. Shore A Hardness Range: 20 to 35.

D. Designation U-SL - Self-Leveling Polyurethane Sealant: ASTM C 920, Grade P, Class 25, Uses T, I, M, A, O; single component, chemical curing, non staining, non bleeding, capable of continuous water immersion, self-leveling Designation.
1. Color: Color as selected.
2. Product: MasterSeal SL-2 manufactured by Master Builders Solutions.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -40 to 180 degrees F.
5. Shore A Hardness Range: 20 to 35.

E. Designation S-GP - Silicone Sealant: ASTM C 920, Grade NS, Class 25, Uses NT, A, G, M, O; single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding.
1. Color: Standard colors matching finished surfaces.
2. Product: 795 manufactured by Dow Corning.
3. Movement Capability: Plus and minus 25 percent.
4. Service Temperature Range: -65 to 180 degrees F.
5. Shore A Hardness Range: 15 to 35.

F. Designation S-S - Silicone Sealant: ASTM C 920, Grane NS, Class 25, Uses NG, A, G, M, O; single component, non-sagging, non-staining, sanitary.
1. Color: Standard colors matching finished surfaces.
2. Product: 786 manufactured by Dow Corning.
3. Service Temperature Range: -65 to 180 degrees F.
4. Shore A Hardness Range: 15 to 35.

5. Pre-Formed Elastomeric Foam Seal (PF): Protectowrap Triple Guard energy Sill Sealer.

2.3 ACCESSORIES
A. Primer: Non-staining Designation, recommended by sealant manufacturer to suit application.
B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Verify that substrate surfaces are ready to receive work.
B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION
A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.
C. Clean and prime joints in accordance with manufacturer's instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
D. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
E. Protect elements surrounding the work of this section from damage or disfigurement.

3.3 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 and USG manual.
D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
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. Pre-compressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

3.4 CLEANING
A. Clean adjacent soiled surfaces.

3.5 PROTECTION
A. Protect sealants until cured.

3.6 SCHEDULE
A. Exterior Joints for Which No Other Sealant Designation is Indicated: Designation S-GP.
B. Control and Expansion Joints in Paving: Designation U-SL.
C. Interior Wall Expansion Joints: Designation U-MC.
D. Exterior Wall Expansion Joints: Designation S-GP.
E. Control, Expansion, and Soft Joints in Masonry, and Between Masonry and Adjacent Work: Designation S-GP.
F. Lap Joints in Exterior Sheet Metal Work: Designation S-GP.
G. Joints Between Exterior Metal Frames and Adjacent Work: Designation S-GP.
H. Under Exterior Door Thresholds: Designation S-GP.
I. Interior Joints for Which No Other Sealant is Indicated: Designation AL.
J. Control and Expansion Joints in Interior Concrete Slabs and Floors: Designation U-SL.
K. Joints Between Plumbing Fixtures and Walls and Floors, and Between Countertops and Walls: Designation S-S.
L. In STC-Rated Walls, Between Metal Stud Track/Runner and Adjacent Construction: Designation AL-A.
M. Between Slab on Grade and Exterior Wall Sill Plates: Designation PF.
N. Between Slab and Sill Receivers at Aluminum Storefront: Bituminous Mastic.

END OF SECTION

SECTION 081116

ALUMINUM DOORS AND FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Aluminum frames.

1.2 REFERENCE STANDARDS
- A. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document) 2015.
- B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.
- C. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- E. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.
- F. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.
- G. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- H. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- I. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- J. ITS (DIR) - Directory of Listed Products Current Edition.
- K. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2022.
- L. UL (DIR) - Online Certifications Directory Current Edition.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's descriptive literature for each type of frame; include information on fabrication methods.
- C. Shop Drawings: Include elevations of each opening type.
  - 1. Verify dimensions by field measurements before fabrication and indicate on shop drawings.
- D. Verification Samples: Actual pieces of products in each finish specified, not less than 6 inches square or 6 inches long for linear components. For finishes subject to color variation, include not less than two samples illustrating extreme range to be anticipated.
- E. Test Report: Submit certified test reports from qualified independent testing agency indicating doors comply with specified performance requirements.
- F. Manufacturer's Qualification Statement.
- G. Installer's Qualification Statement.
- H. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Deliver aluminum components in manufacturer's standard protective packaging, palleted, crated, or banded together.
- B. Inspect delivered components for damage and replace. Repaired components will not be accepted.
- C. Store components in clean, dry, indoor area, under cover in manufacturer's packaging until installation.
- D. Protect materials and finish from damage during handling and installation.

1.6 FIELD CONDITIONS
- A. Do not begin installation of interior aluminum components until space has been enclosed and ambient thermal conditions are being maintained at levels consistent with final project requirements.

1.7 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide ten year manufacturer warranty for defects in workmanship and materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Aluminum Door Frames:
  - 1. Western Integrated Materials; 300 Series Frames: aluminumdoorframes.com.
  - 2. Substitutions: See Section 016000 - Product Requirements.

2.2 DOORS AND FRAMES
- A. Accessibility: Conform to ICC A117.1, ADA Standards, and Texas Accessibility Standards.
- B. Aluminum Frames for Doors, Sidelights, or Transoms: Extruded aluminum, non-thermally broken hollow or C-shaped sections; no steel components.
  - 1. Frame Depth: To fit wall thicknesses as indicated on drawings.
  - 2. Frames for Fire-Rated Doors Specified Elsewhere: Tested in accordance with NFPA 252, listed and labeled by UL (DIR), ITS (DIR), or testing agency acceptable to authorities having jurisdiction.
  - 3. Finish: Class I - Natural anodized.
  - 4. Sidelight/Transom Glazing: As specified in Section 088000.
- C. Dimensions and Shapes: As indicated on drawings; dimensions indicated are nominal.

2.3 COMPONENTS
- A. Frames: Extruded aluminum shapes, not less than 0.062 inch thick, reinforced at hinge and strike locations.
  - 1. Corner Brackets: Extruded aluminum, fastened with stainless steel screws.
  - 2. Trim: Extruded aluminum, not less than 0.062 inch thick, removable snap-in type without exposed fasteners.

2.4 MATERIALS
- A. Aluminum Sheet: ASTM B209 (ASTM B209M), alloy 5005, temper H14, stretcher leveled.
- B. Extruded Aluminum: ASTM B221 (ASTM B221M), alloy 6063, temper T5, or alloy 6463, temper T5.

2.5 FINISHES
- A. Class I Natural Anodized Finish: Clear anodic coating; AAMA 611 AA-M12C22A41, minimum dry film thickness 0.7 mils.

2.6 ACCESSORIES
- A. Fasteners: Aluminum, non-magnetic stainless steel, or other material warranted by manufacturer as non-corrosive and compatible with aluminum components.
- B. Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible, otherwise, non-magnetic stainless steel or steel hot-dip galvanized in compliance with ASTM A123/A123M.
- C. Bituminous Coating: Cold-applied asphaltic mastic, compounded for 30-mil thickness per coat.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that wall surfaces and openings are ready to receive frames and are within tolerances specified in manufacturer's instructions.
- B. Verify that frames installed by other trades for installation of doors of this section are in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
- A. Perform cutting, fitting, forming, drilling, and grinding of frames as required for project conditions.
- B. Replace components with damage to exposed finishes.

C. Separate dissimilar metals to prevent electrolytic action between metals.

3.3 INSTALLATION
A. Install doors and frames in accordance with manufacturer's instructions and approved shop drawings.
B. Set frames plumb, square, level, and aligned to receive doors. Anchor frames to adjacent construction in strict accordance with manufacturer's recommendations and within specified tolerances.
C. Where aluminum surfaces contact metals other than stainless steel, zinc, or small areas of white bronze, protect from direct contact by painting dissimilar metal with heavy coating of bituminous paint.
D. Hang doors and adjust hardware to achieve specified clearances and proper door operation.
E. Comply with glazing installation requirements of Section 088000.

3.4 FIELD QUALITY CONTROL
A. Provide services of aluminum door manufacturer's field representative to observe for proper installation of system and submit report.
B. See Section 014000 - Quality Requirements, for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.
C. Repair or replace fenestration components that have failed designated field testing, and retest to verify performance conforms to specified requirements.

3.5 CLEANING
A. Upon completion of installation, thoroughly clean door and frame surfaces in accordance with AAMA 609 & 610.
B. Do not use abrasive, caustic, or acid cleaning agents.

3.6 PROTECTION
A. Protect products of this section from damage caused by subsequent construction until Date of Substantial Completion.
B. Replace damaged or defective components that cannot be repaired to a condition indistinguishable from undamaged components.

END OF SECTION

SECTION 081416

FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Flush wood doors; flush configuration; fire-rated and non-rated.

1.2 REFERENCE STANDARDS
- A. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.
- B. NEMA LD 3 - High-Pressure Decorative Laminates 2005.
- C. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2022.
- D. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors 2021, with Errata (2022).

1.3 SUBMITTALS
- A. See Section 013000 - 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.
- D. Samples: Submit two samples of door construction, 8 by 10 inch in size cut from top corner of door.
- E. Certificate: Submit labels and certificates required by quality assurance and quality control programs.
- F. Manufacturer's Installation Instructions: Indicate special installation instructions.
- G. Warranty, executed in Owner's name.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
  - 1. Company with at least one project within past five years with value of woodwork within at least 20 percent of cost of woodwork for this project.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.5 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.

1.6 WARRANTY
- A. See Section 017800 - 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

2.1 MANUFACTURERS
- A. Wood Veneer Faced Doors:
  - 1. Masonite Architectural: masonitearchitectural.com.
  - 2. Substitutions: See Section 016000 - Product Requirements.
- B. High Pressure Decorative Laminate (HPDL) Faced Doors:
  - 1. Ampco Products, Inc: www.ampco.com/#sle.
  - 2. Poncraft Door Co: www.poncraft.com/#sle.
  - 3. VT Industries, Inc: www.vtindustries.com/#sle.

4. Substitutions: See Section 016000 - Product Requirements.

2.2 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), unless noted otherwise.
2. High Pressure Decorative Laminate (HPDL) Faced Doors: 5-ply unless otherwise indicated.
B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
1. Provide solid core doors at each location.
2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
3. High pressure decorative laminate (HPDL) finish as indicated on drawings.

2.3 DOOR AND PANEL CORES
A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.
B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.4 DOOR FACINGS
A. High Pressure Decorative Laminate (HPDL) Facing for Fire Doors: NEMA LD 3, SGF; color as selected; finish as selected.
B. High Pressure Decorative Laminate (HPDL) Facing for Non-Fire-Rated Doors: NEMA LD 3, HGS; color as selected; finish as selected.
C. Cross Banding Behind High Pressure Laminate Finish: 1 ply; of high-density fiberboard (HDF) material.
D. Facing Adhesive: Type I - waterproof.

2.5 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 and top of door for closer for hardware reinforcement.
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.

2.6 FINISHES - WOOD VENEER DOORS
A. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:
1. Transparent:
a. System - TR-8, UV Cured Acrylated Polyester/Urethane.
b. Stain: Match existing.
c. Sheen: Match existing.
B. Factory finish doors in accordance with approved sample.
C. Seal door top edge with color sealer to match door facing.

2.7 ACCESSORIES
A. Aluminum Door Frames: As specified in Section 081116.
B. Glazed Openings:
1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
C. Door Window Frames: Door window frames with glazing securely fastened within door opening.
1. Size: As indicated on drawings.
2. Frame Material: 18 gauge, 0.0478 inch, galvanized steel.
3. Metal Finish: Color as selected by Architect, polyester powder coating.
4. Glazing: 1/4 inch thick, tempered glass, in compliance with requirements of authorities having jurisdiction.
D. Glazing Stops: Rolled steel channel shape, butted corners; prepared for countersink style tamper proof screws.

E. Astragals and Edges for Double Doors: Pairs of doors astragals, and door edge sealing and protection devices.
F. Door Hardware: See Section 087100.

PART 3 EXECUTION

3.1 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.

3.2 INSTALLATION
A. Install doors in accordance with manufacturer's instructions and specified quality standard.
1. Install fire-rated doors in accordance with NFPA 80 requirements.
B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
C. Use machine tools to cut or drill for hardware.
D. Coordinate installation of doors with installation of frames and hardware.
E. Coordinate installation of glazing.

3.3 TOLERANCES
A. Comply with specified quality standard for fit and clearance tolerances.
B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.4 ADJUSTING
A. Adjust doors for smooth and balanced door movement.
B. Adjust closers for full closure.

END OF SECTION

SECTION 083100

ACCESS DOORS AND PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Wall and ceiling access door and frame units.

1.2 REFERENCE STANDARDS

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.
- C. Shop Drawings: Indicate exact position of each access door and/or panel unit.
- D. Manufacturer's Installation Instructions: Indicate installation requirements.
- E. Project Record Documents: Record actual locations of each access unit.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

PART 2 PRODUCTS

2.1 ACCESS DOORS AND PANELS ASSEMBLIES
- A. Wall-Mounted Units:
  1. Location: As indicated on drawings.
  2. Material: Steel, hot-dipped zinc or zinc-aluminum-alloy coated.
  3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
  4. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
- B. Wall-Mounted Units in Wet Areas:
  1. Location: As indicated on drawings.
  2. Material: Stainless steel.
  3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
  4. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.
  5. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
- C. Ceiling-Mounted Units:
  1. Location: As indicated on drawings.
  2. Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
  3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle; flush with adjacent ceiling, radiused edge.

2.2 WALL AND CEILING MOUNTED UNITS
- A. Manufacturers:
  1. ACUDOR Products Inc: www.acudor.com/#sle.
  2. Babcock-Davis: www.babcockdavis.com/#sle.
  3. Bauco Access Panel Solutions, Inc.: www.accesspanelsolutions.com.
  4. Karp Associates, Inc: www.karpinc.com/#sle.
  5. Milcor, Inc: www.milcorinc.com/#sle.
  6. Nystrom, Inc: www.nystrom.com/#sle.
  7. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that rough openings are correctly sized and located.
- B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
- A. Clean surfaces thoroughly prior to proceeding with this work.
- B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.3 INSTALLATION
- A. Install units in accordance with manufacturer's instructions.
- B. Install frames plumb and level in openings, and secure units rigidly in place.
- C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION

SECTION 084313

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Aluminum-framed storefront, with vision glass.
- B. Aluminum doors.
- C. Weatherstripping.

1.2 REFERENCE STANDARDS
- A. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site 2015.
- B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems 2015.
- C. AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems 2014.
- D. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document) 2015.
- E. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.
- F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.
- G. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.
- H. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2021a.
- I. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- J. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- K. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference 2014 (Reapproved 2021).
- L. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors 2002 (Reapproved 2018).
- M. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference 2015 (Reapproved 2023).

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate with installation of other components that comprise the exterior enclosure.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.
- D. Samples: Submit two samples 8 by 8 inches in size illustrating finished aluminum surface, glass, glazing materials.
- E. Manufacturer's Certificate: Certify that the products supplied meet or exceed the specified requirements.
- F. Design Data: Provide framing member structural and physical characteristics, engineering calculations, and dimensional limitations.
- G. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- H. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.
- I. Designer's qualification statement.
- J. Manufacturer's qualification statement.
- K. Installer's qualification statement.

1.5 QUALITY ASSURANCE
- A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State in which the Project is located.
- B. Manufacturer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.
- C. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING
- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.7 FIELD CONDITIONS
- A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.8 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.
- D. Provide 10 year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Aluminum-Framed Storefronts:
  1. Kawneer North America; Trifab VersaGlaze 451/451T: www.kawneer.com/#sle.

2.2 ALUMINUM-FRAMED STOREFRONT
- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
  1. Basis-of-Design Product:
     - a. Kawneer; Trifab VersaGlaze 451/451T.
  2. Glazing Position: Centered (front to back).
  3. Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep.
  4. Finish: Class I natural anodized.
     - a. Factory finish all surfaces that will be exposed in completed assemblies.
     - b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
     - c. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
  5. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
  6. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
  7. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
  8. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
  9. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.

10. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

B. Performance Requirements
1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
a. Design Wind Loads: Comply with requirements of ASCE 7.
b. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.

2.3 COMPONENTS
A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
1. Framing members for interior applications need not be thermally broken.
2. Glazing Stops: Flush.
B. Glazing: See Section 088000.
C. Swing Doors: Glazed aluminum.
1. Thickness: 1-3/4 inches.
2. Top Rail: 4 inches wide.
3. Vertical Stiles: 4-1/2 inches wide.
4. Bottom Rail: 10 inches wide.
5. Glazing Stops: Square.
6. Finish: Same as storefront.
D. Brake Metal: Manufacturer's standard variable-degree brake metal trim system compatible with storefront framing for outside corner conditions.
1. Product:
a. Kawneer; Variable Degree Brake Metal Outside Corner.
2. Finish: Match storefront framing.

2.4 MATERIALS
A. Extruded Aluminum: ASTM B221 (ASTM B221M).
B. Sheet Aluminum: ASTM B209/B209M.
C. Fasteners: Stainless steel.
D. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.
E. Glazing Accessories: See Section 088000.

2.5 FINISHES
A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

2.6 HARDWARE
A. For each door, include weatherstripping, sill sweep strip, and threshold.
B. Other Door Hardware: See Section 087100.
C. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.
D. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.
E. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify dimensions, tolerances, and method of attachment with other work.
B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier seal materials are ready to receive work of this section.

3.2 INSTALLATION
A. Install wall system in accordance with manufacturer's instructions.
B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
E. Provide thermal isolation where components penetrate or disrupt building insulation.
F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
I. Install operating sash.
J. Set thresholds in bed of sealant and secure.
K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.3 TOLERANCES
A. Maximum Variation from Plumb: 0.06 inch per 3 feet non-cumulative or 0.06 inch per 10 feet, whichever is less.
B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.4 FIELD QUALITY CONTROL
A. Provide services of storefront manufacturer's field representative to observe for proper installation of system and submit report.
B. See Section 014000 - Quality Requirements for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.
C. See Section 014000 - Quality Requirements for general testing and inspection requirements.
D. Water-Spray Test: Provide water spray quality test of installed storefront components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.
1. Perform a minimum of two tests in each designated area as indicated on drawings.
2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.
E. Provide field testing of installed storefront system by independent laboratory in accordance with AAMA 503 during construction process and before installation of interior finishes.
1. Perform a minimum of two tests in each designated area as indicated on drawings.
2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.
3. Field test for water penetration in accordance with ASTM E1105 with uniform static air pressure difference (Procedure A) not less than 4.18 psf.
a. Maximum allowable rate of water penetration in 15-minute test is 0.5 ounce that is not contained in an area with provisions to drain to exterior, or collected on surface of interior horizontal framing member.
4. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 1.57 psf.
a. Maximum allowable rate of air leakage is 0.09 cfm/sq ft.
F. Repair or replace storefront components that have failed designated field testing, and retest to verify performance complies with specified requirements.

3.5 ADJUSTING
A. Adjust operating hardware for smooth operation.

3.6 CLEANING
A. Remove protective material from pre-finished aluminum surfaces.
B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.
C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

3.7 PROTECTION
A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

SECTION 085659

SERVICE AND TELLER WINDOW UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Service and teller window units.

1.2 REFERENCE STANDARDS
- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.
- B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- C. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate work with adjacent materials specified in other sections and as indicated on drawings and approved shop drawings.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's product data for specified products indicating materials, operation, glazing, finishes, and installation instructions.
- C. Shop Drawings: Indicate configuration, sizes, rough-in, mounting, anchors and fasteners, and installation clearances.
- D. Test Data: Test reports for specific window model and glazing to be furnished, showing compliance with all specified requirements; window and glazing may be tested separately, provided window test sample adequately simulates the glazing to be used.
- E. Manufacturer Qualification Statement.
- F. Installer Qualification Statement.
- G. Testing Agency Qualification Statement.
- H. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with at least ten years documented experience, and with ability to provide test reports showing that their standard manufactured products meet the specified requirements.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.
- C. Testing Agency Qualifications: Independent testing agency with documented experience in conducting tests of the type specified.

1.6 DELIVERY, STORAGE, AND HANDLING
- A. Deliver units in manufacturer's original packaging and unopened containers with identification labels intact.
- B. Store units in area protected from exposure to weather and vandalism.

1.7 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Provide manufacturer's warranty agreeing to repair or replace units and their components that fail in materials or workmanship within five years from Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Service and Teller Window Units:
  - 1. Ready Access, Inc: www.ready-access.com/#sle.
  - 2. Substitutions: See Section 016000 - Product Requirements.

2.2 SERVICE AND TELLER WINDOW UNITS
- A. Location: Built within exterior wall, as indicated on drawings.
- B. Type of Use: Walk-up.
- C. Window Type: Sliding, single horizontal.
  - 1. Operation: Self-closing.
  - 2. Mounting: Flush with wall surface.
  - 3. Window Size: As indicated on drawings.
  - 4. Material: Aluminum.
    - a. Finish: Clear anodized.
  - 5. Header: Manufacturer's standard type.
  - 6. Sill: Manufacturer's standard type.
- D. Glazing: Insulating glass, 1 inch overall depth, clear.
- E. Sneeze Guard Shield: Accessory shield with talk-through device.
  - 1. Mounting: Factory mounted to opening.
  - 2. Clearance: 11-1/4 inches clear from bottom of opening.
  - 3. Products:
    - a. Ready Access; Social Distancing Sneeze Guard Shield.
    - b.

2.3 ASSEMBLY COMPONENTS
- A. Windows: Factory-fabricated, finished, and glazed, with extruded aluminum frame and glazing stops; complete with hardware and anchors.
  - 1. Provide window units that are re-glazable from the secure side without dismantling the non-secure side of framing.
  - 2. Rigidly fit and secure joints and corners with internal reinforcement. Make joints and connections flush, hairline, and weatherproof. Fully weld corners.
  - 3. Apply factory finish to exposed surfaces.
  - 4. Apply bituminous paint to concealed metal surfaces in contact with cementitious or dissimilar materials.
  - 5. Wind Design: Design and size components to withstand dead loads and live loads caused by pressure and negative wind loads acting normal to plane of window as calculated in accordance with applicable code.
  - 6. Horizontal Sliding Windows: Top-hung operable sash; with thumb-turn release.
  - 7. Self-Closing Operation: Manual open and self-closing with auto-locking handles and magnetic hold-open device.

2.4 MATERIALS
- A. Aluminum Extrusions: Minimum 1/8 inch thick frame and sash material complying with ASTM B221 and ASTM B221M.
  - 1. Finish: Class I natural anodized.
- B. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

2.5 FINISHES
- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

2.6 ACCESSORIES
- A. Hardware and Security Devices for Sliding Windows:
  - 1. Night Security Lock Bar: Sliding aluminum lock bar.
  - 2. Auto-Lock Handle: Stainless steel auto-locking handle on all self-closing sliders to prevent intrusion.
  - 3. Weatherstripping and Glazing Sealant: Factory applied.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that window openings are ready for installation of windows.

B. Verify that correct embedded anchors are in place and in proper location; repair or replace anchors as required to achieve satisfactory installation.
C. Notify Architect if conditions are not suitable for installation of units; do not proceed until conditions are satisfactory.

3.2 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Install units in correct orientation (inside/outside or secure/non-secure).
C. Anchor units securely in manner so as to achieve performance specified.
D. Set sill members and sill flashing in continuous bead of sealant.
E. Separate metal members from concrete and masonry using bituminous paint or with products recommended in writing by the manufacturer for this purpose.

3.3 ADJUSTING
A. Adjust operating components for smooth operation while also maintaining a secure, weather-tight enclosure and a tight fit at the contact points; lubricate operating hardware.

3.4 CLEANING
A. Remove protective material from factory finished surfaces.
B. Clean exposed surfaces promptly after installation without damaging finishes.

3.5 PROTECTION
A. Provide temporary protection to ensure that service and teller windows are without damage upon Date of Substantial Completion.

END OF SECTION

SECTION 086200

UNIT SKYLIGHTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Skylights with integral frame.
- B. Ceiling dome.

1.2 REFERENCE STANDARDS
- A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights 2022.
- B. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document) 2015.
- C. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- F. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights 2023.
- G. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Include structural, thermal, and daylighting performance values.
- C. Shop Drawings: Indicate configurations, dimensions, locations, fastening methods, and installation details.
- D. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
  1. Evidence of AAMA Certification.
  2. Evidence of WDMA Certification.
  3. Evidence of CSA Certification.
  4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.
- E. Manufacturer's Installation Instructions: Indicate special procedures.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with not less than three years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

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

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Unit Skylights:
  1. Artistic Skylight Domes Limited: www.artisticskylight.com/#sle.
  2. Kingspan Light + Air, LLC: www.kingspanlightand air.us/#sle.
  3. Velux America, Inc: www.veluxusa.com/#sle.
  4. Wasco Skylights - Part of the VELUX Group: www.wascoskylights.com/#sle.
  5. Substitutions: See Section 016000 - Product Requirements.

2.2 SKYLIGHTS
A. Skylights: Factory-assembled glazing in aluminum frame, free of visual distortion, and weathertight.
1. Shape: Circular dome.
2. Glazing: Double.
3. Operation: None; fixed.
4. Roof Slope: As indicated on drawings.
5. Nominal Size: As indicated on drawings.

2.3 PERFORMANCE REQUIREMENTS
A. Provide unit skylights that comply with the following:
1. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific skylight type:
a. Performance Grade (PG): Equivalent to or greater than specified design pressure.
2. Allow for expansion and contraction within system components caused by a cycling surface temperature range of 170 degrees F without causing detrimental effects to system or components.
3. Energy Code Compliance: Comply with ICC (IBC), ASHRAE Std 90.1 I-P, or the authorities having jurisdiction as required for unit skylights.

2.4 DESIGN CRITERIA
A. Unit Skylight Design: Design and size components to withstand dead loads and live loads caused by snow, hail, and positive and negative wind loads acting on skylight unit without damage or permanent set.
1. Regulatory Requirements: Comply with applicable code criteria for loads, including seismic loads.
a. See Section 014100 - Regulatory Requirements.
2. Design Loads: As indicated on drawings.

2.5 COMPONENTS
A. Double Glazing: Acrylic plastic; factory sealed.
1. Outer Glazing: Clear transparent.
2. Inner Glazing: White translucent.
3. Thermal Transmittance (U-Value), Summer - Center of Glass: ___, nominal.
4. Visible Light Transmittance (VLT): ___ percent minimum.
5. Ultraviolet (UV) Light Transmission: 2 percent, maximum.
6. Solar Heat Gain Coefficient (SHGC): ___ percent, nominal.
B. Frames: ASTM B221 ASTM B221M Extruded aluminum thermally broken, reinforced and welded corner joints, integral curb frame mounting flange and counterflashing to receive roofing flashing system, with integral condensation collection gutter, glazing retainer; clear anodized finish.

2.6 ACCESSORIES
A. Anchorage Devices: Type recommended by manufacturer, exposed to view.
B. Counterflashings: Same metal type and finish as skylight frame.
C. Skylight Protection System: OSHA-compliant; nonpenetrating fall protection.
D. Protective Back Coating: Zinc molybdate alkyd.
E. Sealant: Elastomeric, silicone or polyurethane, compatible with material being sealed .

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify existing conditions before starting work.
B. Verify that openings and substrate conditions are ready to receive work of this section.
C. Verify that curbs installed under other sections are complete.

3.2 PREPARATION
A. Apply protective back coating on aluminum surfaces of skylight units that will be in contact with cementitious materials or dissimilar metals.

3.3 INSTALLATION
A. Install unit skylights in accordance with manufacturer's instructions and ASTM E2112.
B. Install aluminum curb assembly, fastening securely to roof decking; flash curb assembly into roofing system.

C. Install skylight units and mount securely to curb assembly; install counterflashing as required.
D. Apply sealant to achieve watertight assembly.

3.4 CLEANING
A. Upon completion of installation, thoroughly clean skylight aluminum surfaces in accordance with AAMA 609 & 610.
B. Remove protective material from prefinished aluminum surfaces.
C. Wash down exposed surfaces; wipe surfaces clean.
D. Remove excess sealant.

END OF SECTION

SECTION 088000

GLAZING

SPECIFYING STRATEGY

1.1 HOW TO USE THIS SECTION
- A. The most important step is the selection of companion narrow scope sections which contain the bulk of Part 2 content relevant to specific glazing product type.
- B. Part 3 of this section is intended to function as a single location for "glazing methods" applicable to any number of glazing products. Therefore, installation accessories have been retained in this section. The other sections in this group have their installation methods linked to this section.
- C. Edit the "Installation - Glazing Methods" list in Part 3 to correspond with types of openings and applications in the project. Glazing methods differ based on application, framing, and location (exterior or interior). Type of glazing material is a less critical criterion for selection of optimal glazing method.

PART 1 GENERAL

2.1 SECTION INCLUDES
- A. Insulating glass units.
- B. Glazing units.
- C. Plastic films.
- D. Glazing compounds.

2.2 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 C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers 2005 (Reapproved 2019).
- C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.
- D. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass 2021a.
- E. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings 2016.
- F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation 2019.
- G. GANA (GM) - GANA Glazing Manual 2022.
- H. NFRC 100 - Procedure for Determining Fenestration Product U-factors 2023.
- I. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence 2023.
- J. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems 2023.

2.3 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.

2.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data on Insulating Glass Unit and Glazing Unit 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. Samples: Submit two samples of glass units, showing coloration.
- E. Certificate: Certify that products of this section meet or exceed specified requirements.
- F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

2.5 QUALITY ASSURANCE
- A. Perform Work in accordance with GANA (GM) for glazing installation methods. Maintain one copy on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

2.6 MOCK-UPS
A. See Section 014000 - Quality Requirements for additional requirements.
B. Provide on-site glazing mock-up with the specified glazing components.
C. Locate where directed.
D. Mock-ups may remain as part of the Work.

2.7 FIELD CONDITIONS
A. Do not install glazing when ambient temperature is less than 40 degrees F.
B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

2.8 WARRANTY
A. See Section 017800 - Closeout Submittals for additional warranty requirements.
B. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

PART 2 PRODUCTS

3.1 MANUFACTURERS
A. Glass Fabricators:
1. GGI - General Glass International: www.generalglass.com/#sle.
2. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com/#sle.
3. Viracon, Inc: www.viracon.com/#sle.
4. Vitro Architectural Glass: www.vitroglazings.com.
B. Plastic Films Manufacturers:
1. 3M Window Film; Fasara: solutions.3m.com/wps/portal/3M/en_US/Window_Film/Solutions/#sle.
2. Substitutions: See Section 016000 - Product Requirements.

3.2 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES
A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Design Pressure: Calculated in accordance with ASCE 7.
2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
3. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
4. Glass thicknesses listed are minimum.
B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
1. In conjunction with weather barrier related materials described in other sections, as follows:
C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

3.3 GLASS MATERIALS
A. Float Glass: Provide float glass based glazing unless otherwise indicated.
1. FG, FGT: Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT where required by code.

3.4 INSULATING GLASS UNITS
A. Manufacturers:

1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
2. Guardian Glass, LLC: www.guardianglass.com/#sle.
3. Pilkington North America Inc: www.pilkington.com/na/#sle.Pilkington North America Inc: www.pilkington.com/na/#sle.
4. Viracon, Apogee Enterprises, Inc: www.viracon.com/#sle.
5. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle.
6. Substitutions: See Section 016000 - Product Requirements.

B. Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
3. Metal-Edge Spacers: Aluminum, bent and soldered corners.
4. Spacer Color: Black.
5. Edge Seal:
   a. Single-Sealed System: Provide silicone, polysulfide, or polyurethane sealant as seal applied around perimeter.
6. Purge interpane space with dry air, hermetically sealed.

C. Insulating Glass Units: Vision glass, double glazed.
1. Product: Vitro; Solarban 70 (2) Atlantica + Clear.
2. Applications: Exterior glazing unless otherwise indicated.
3. Space between lites filled with air.
4. Outboard Lite: Heat-strengthened float glass, fully tempered where indicated or required by code, 1/4 inch thick, minimum.
   a. Tint: Green; Match existing.
   b. Coating: Low-E (passive type), on #2 surface.
5. Inboard Lite: Annealed float glass, 1/4 inch thick, minimum.
   a. Tint: Clear.
6. Total Thickness: 1 inch.
7. Thermal Transmittance (U-Value), Winter - Center of Glass: 1.02, nominal.
8. Visible Light Transmittance (VLT): 67 percent, nominal.
9. Solar Heat Gain Coefficient (SHGC): 0.53, nominal.
10. Visible Light Reflectance, Outside: 7Victorville Library SV percent, nominal.

3.5 GLAZING UNITS

A. Monolithic Interior Vision Glazing:
1. Applications: Interior glazing unless otherwise indicated.
2. Glass Type: Annealed float glass, fully tempered where required by code.
3. Tint: Clear.
4. Thickness: 1/4 inch, nominal.

3.6 PLASTIC FILMS

A. Decorative Plastic Film: Manufacturer's standard type.
1. Application: Exterior glazing units.
2. Thickness (Film and Adhesive): 77 microns.
3. Shading Coefficient: 0.75.
4. Solar Heat Reflectance: 17 percent.
5. Solar Heat Transmittance: 57 percent.
6. Solar Heat Absorbance: 26 percent.
7. Visible Light Transmittance: 59 percent.
8. Visible Light Reflectance: 21 percent.
9. Ultraviolet Transmittance: 0 percent.
10. Manufacturers:
    a. 3M; Fasara, Milky White Milano SH2MAML.
    b. Substitutions: See Section 016000 - Product Requirements.

3.7 GLAZING COMPOUNDS
- A. Polysulfide Sealant: Two component; chemical curing, non-sagging type; ASTM C920 Type M, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.
- B. Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.

3.8 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 of glazing or minimum 4 inch by width of glazing rabbet space minus 1/16 inch by height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.
- C. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.
- D. Glazing Clips: Manufacturer's standard type.

3.9 SOURCE QUALITY CONTROL
- A. Provide shop inspection and testing for insulating glass.

PART 3 EXECUTION

4.1 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.
- C. Verify that sealing between joints of glass framing members has been completed effectively.
- D. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

4.2 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.

4.3 INSTALLATION, GENERAL
- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

4.4 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 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.

4.5 INSTALLATION - WET GLAZING METHOD (COMPOUND AND COMPOUND)
- A. Application - Interior Glazed: Set glazing infills from the interior of the building.
- B. Install glazing resting on setting blocks. Install applied stop and center pane by use of spacer shims at 24 inch centers, kept 1/4 inch below sight line.
- C. Locate and secure glazing pane using glazers' clips.
- D. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

4.6 INSTALLATION - PLASTIC FILM
- A. Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.
- B. Place without air bubbles, creases or visible distortion.

C. Install film tight to perimeter of glass and carefully trim film with razor sharp knife. Provide 1/16 inch to 1/8 inch gap at perimeter of glazed panel unless otherwise required. Do not score the glass.

4.7 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.

4.8 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.

4.9 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 092116

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Resilient sound isolation clips.
- E. Acoustic insulation.
- F. Gypsum sheathing.
- G. Gypsum wallboard.
- H. Joint treatment and accessories.

1.2 REFERENCE STANDARDS
- A. AISI S201 - North American Standard for Cold-Formed Steel Framing - Product Data 2017.
- B. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing 2020.
- C. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing 2015, with Errata (2020).
- 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 C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories 2020.
- G. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017 (Reapproved 2022).
- 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 2020.
- K. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness 2022.
- L. 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.
- M. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base 2019.
- N. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.
- O. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel 2018.
- P. ASTM C1280 - Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing 2018 (Reapproved 2023).
- Q. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
- R. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels 2019, with Editorial Revision (2020).
- S. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.
- T. GA-216 - Application and Finishing of Gypsum Panel Products 2021.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordination: Coordinate the installation of gypsum board assemblies with size, location, and installation of service utilities.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Install service utilities in an orderly and expeditious manner.

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

B. Product Data:
   1. Provide data on metal framing, gypsum board, accessories, and joint finishing system.
   2. Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
C. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
D. Samples: Submit two samples of gypsum board finished with proposed texture application, 12 by 12 inches in size, indicating finish color and texture.
E. Steel Framing Industry Association (SFIA) Certification:
   1. Submit documentation that metal studs and connectors used on project meet or exceed requirements of International Building Code.
F. Test Reports: For stud framing products that do not comply with AISI S220 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
G. Evaluation Service Reports: Show compliance of grid suspension systems with specified requirements.
H. Installer's Qualification Statement.

1.5 QUALITY ASSURANCE
A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
B. Manufacturer Qualifications: Member of Steel Stud Manufacturers Association (SSMA): www.ssma.com/#sle.
C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations.
B. Store metal products to prevent corrosion.

PART 2 PRODUCTS

2.1 METAL FRAMING MATERIALS
A. Material and Product Requirements Criteria: AISI S201.
B. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.
   1. Structural Grade: As required to meet design criteria.
C. Manufacturers - Metal Framing, Connectors, and Accessories:
   1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com/#sle.
   2. Marino: www.marinoware.com/#sle.
   3. SCAFCO Corporation: www.scafco.com/#sle.
   4. Steel Construction Systems: www.steelconsystems.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.
D. Nonstructural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
   1. Studs: C-shaped with knurled or embossed faces.
   2. Paired Studs for Sound-Rated Assemblies: Engineered single-piece assemblies comprised of paired studs coupled by sound isolators, designed to replace conventional side-by-side, parallel, double-wall partition framing.
   3. Runners: U shaped, sized to match studs.
   4. Ceiling Channels: C-shaped.
   5. Flexible Track: Flexible framing consisting of adjustable leg straps and pivoting, hinged track brackets designed to provide curved framing assemblies of varying radii.
      a. Dimensions: 3-5/8 inches deep by 1-3/16 inches high in lengths and configurations indicated.
   6. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.
   7. Resilient Furring Channels: Single or double leg configuration; 1/2 inch channel depth.
   8. Resilient Sound Isolation Clips: Steel resilient clips with molded rubber isolators, attaches to framing; improves noise isolation performance of wall and floor-ceiling assemblies.
E. Shaft Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.

F. Area Separation Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with specified performance requirements.
G. 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 fastened as indicated on drawings.
H. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.
   1. Products:
      a. ClarkDietrich; BlazeFrame Firestop Deflection Track: www.clarkdietrich.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.
I. Preformed Top Track Firestop Seal:
   1. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
   2. Products:
      a. Hilti, Inc; Top Track Seal CFS TTS: www.us.hilti.com/#sle.
      b. Specified Technologies Inc; SpeedFlex TTG Track Top Gasket: www.stfirestop.com/#sle.
      c. Substitutions: See Section 016000 - Product Requirements.
J. Non-structural Framing Accessories:
   1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
   2. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
   3. Drywall Corner Clips: Drywall clips help support drywall to reduce wood blocking on top plates, end walls, and corners.
K. Grid Suspension Systems: Steel grid system of main tees and support bars connected to structure using hanging wire.

2.2 BOARD MATERIALS
A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum Company: www.americangypsum.com/#sle.
   2. CertainTeed Corporation: www.certainteed.com/#sle.
   3. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
   4. National Gypsum Company: www.nationalgypsum.com/#sle.
   5. USG Corporation: www.usg.com/#sle.
B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   4. At Assemblies Requiring Enhanced Fire-Resistance: Type C.
   5. Moisture-Resistant Wall Board: With fiberglass mat laminated to both sides. Specifically designed for interior use.
   6. Thickness:
      a. Vertical Surfaces: 5/8 inch.
C. Backing Board For Wet Areas: One of the following products:
   1. Application: Surfaces behind tile in wet areas including tub and shower surrounds.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
      a. Fire-Resistance-Rated Type: Type X core, thickness 5/8 inch.
      b. Products:
         1) Georgia-Pacific Gypsum; DensShield Tile Backer: www.gpgypsum.com/#sle.
         2) Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond eXP Fire-Shield Tile Backer: www.goldbondbuilding.com/#sle.
         3) USG Corporation; Durock Brand Glass-Mat Tile Backerboard 5/8 in. (15.9 mm): www.usg.com/#sle.
         4) Substitutions: See Section 016000 - Product Requirements.
D. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
   1. Application: Vertical surfaces behind thinset tile, except in wet areas.

2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Type X Thickness: 5/8 inch.
5. Edges: Tapered.

E. 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.
3. Edges: Tapered.

F. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
1. Application: Exterior sheathing, unless otherwise indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
4. Core Type: Type X, as indicated.
5. Type X Thickness: 5/8 inch.
6. Edges: Square.
7. Glass Mat Faced Products:
a. American Gypsum Company; M-Glass Exterior Sheathing Type X: www.americangypsum.com/#sle.
b. Georgia-Pacific Gypsum; DensGlass Fireguard Sheathing: www.gpgypsum.com/#sle.
c. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond eXP Fire-Shield Sheathing: www.goldbondbuilding.com/#sle.
d. Substitutions: See Section 016000 - Product Requirements.

G. Exterior Soffit Board: Exterior gypsum soffit board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings and soffits in protected exterior areas, unless otherwise indicated.
2. Types: Type X, in locations indicated.
3. Type X Thickness: 5/8 inch.
4. Edges: Tapered.

H. Shaftwall and Coreboard: Type X; 1 inch thick by 24 inches wide, beveled long edges, ends square cut.
1. Paper-Faced Type: Gypsum shaftliner board or gypsum coreboard as defined ASTM C1396/C1396M; water-resistant faces.
2. Glass Mat Faced Type: Glass mat shaftliner gypsum panel or glass mat coreboard gypsum panel as defined in ASTM C1658/C1658M.
3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

2.3 GYPSUM BOARD ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 2 inch.

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
1. Products:
a. Franklin International, Inc; Titebond Acoustical Smoke & Sound Sealant: www.titebond.com/#sle.
b. Liquid Nails, a brand of PPG Architectural Coatings; _____: www.liquidnails.com/#sle.
c. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
d. Substitutions: See Section 016000 - Product Requirements.

C. Finishing Accessories: ASTM C1047, extruded aluminum alloy (6063 T5) or galvanized steel sheet ASTM A924/A924M G90, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
3. Products:
a. Same manufacturer as framing materials.

D. Moisture Guard Trim: ASTM C1047, rigid plastic, 48 inch length, applied to bottom edge of gypsum board.

1. Height: 1/2 inch.
2. Depth: 5/8 inch.
3. Products:
   a. Waterguard USA; Waterguard: www.waterguard-usa.com/#sle.
   b. Substitutions: See Section 016000 - Product Requirements.

E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Fiberglass Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
3. Joint Compound: Setting type, field-mixed.

F. Textured Finish Materials: Latex-based compound; plain.

G. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

H. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.2 SHAFT WALL INSTALLATION

A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions.
1. Fasten runners to structure with short leg to finished side, using appropriate power-driven fasteners at not more than 24 inches on center.

B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.
1. On walls over sixteen feet high, screw-attach studs to runners top and bottom.
2. Seal perimeter of shaft wall and penetrations with acoustical sealant.

3.3 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C1007AISI S220 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.
2. Laterally brace entire suspension system.
3. Install bracing as required at exterior locations to resist wind uplift.

C. Studs: Space studs at 16 inches 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. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

F. Furring for Fire-Resistance Ratings: Install as required for fire-resistance ratings indicated and to GA-600 requirements.

G. Blocking: Install wood blocking for support of:
1. Framed openings.
2. Wall-mounted cabinets.
3. Toilet partitions.
4. Toilet accessories.
5. Wall-mounted door hardware.

3.4 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.5 BOARD INSTALLATION
A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.
E. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.
   1. Seal joints, cut edges, and holes with water-resistant sealant.
F. Exterior Soffits: Install exterior soffit board perpendicular to framing, with staggered end joints over framing members or other solid backing.
   1. Seal joints, cut edges, and holes with water-resistant sealant.

3.6 INSTALLATION OF TRIM AND ACCESSORIES
A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
B. Corner Beads: Install at external corners, using longest practical lengths.
C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.
D. Moisture Guard Trim: Install on bottom edge of gypsum board according to manufacturer's instructions and in locations indicated on drawings.

3.7 JOINT TREATMENT
A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, embed and finish with setting type joint compound.
B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 3: Walls to receive textured wall finish.
   4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   5. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.8 TEXTURE FINISH
A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

3.9 TOLERANCES
A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.10 CLEANING
A. See Section 017000 - Execution and Closeout Requirements for additional requirements.
B. Clean _____.

3.11 PROTECTION

A. Protect installed gypsum board assemblies from subsequent construction operations.

END OF SECTION

SECTION 092400

CEMENT PLASTERING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Cement plastering.

1.2 REFERENCE STANDARDS
- A. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 2019.
- B. ASTM A924/A924M - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process 2022a.
- C. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster 2023a.
- D. ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster 2023.
- E. ASTM C933 - Standard Specification for Welded Wire Lath 2023.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide data on plaster materials and trim accessories.
- C. Samples:
  - 1. Submit two samples, in size illustrating finish color and texture.
  - 2. Submit two samples of each type trim accessory.

1.4 QUALITY ASSURANCE
- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.5 MOCK-UPS
- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Mock-Up Panel: Construct a 4 foot wide by 8 foot high sample panel of plaster work at the jobsite demonstrating installation procedures, finish texture, and color. Show each phase of installation including framing and reinforcement.
- C. Construct mock-up of exterior wall, 8 feet long by 4 feet wide, illustrating surface finish.
  - 1. Locate where directed.
  - 2. Mock-up may remain as part of this work.

1.6 FIELD CONDITIONS
- A. Exterior Plaster Work: Do not apply plaster when substrate or ambient air temperature is 40 degrees F or lower, or when temperature is expected to drop below 40 degrees F within 48 hours of application.

PART 2 PRODUCTS

2.1 CEMENT PLASTER APPLICATIONS
- A. Lath Plaster Base: Metal lath.
  - 1. Plaster Type: Factory prepared plaster mix.
  - 2. Number of Coats: Three.
  - 3. First Coat: Apply to a nominal thickness of 3/8 inch.
  - 4. Second Coat: Apply to a nominal thickness of 3/8 inch.
  - 5. Finish: Acrylic.

2.2 FACTORY PREPARED CEMENT PLASTER
- A. Exterior Portland cement plaster system made of scratch and brown base coat, leveling coat with reinforcing mesh, and acrylic finish coat; install in accordance with ASTM C926.
  - 1. Provide weather resistive barrier as part of the system, by the same manufacturer.
  - 2. Manufacturer - Basis of Design:

a. LaHabra; FastWall 300: www.lahabrastucco.com/#sle.
3. Other Acceptable Manufacturers:
a. Master Builders Solutions: www.master-builders-solutions.com/en-us/#sle.
b. Master Wall, Inc: www.masterwall.com/#sle.
c. Parex USA, Inc: www.parexusa.com/#sle.
d. Sto Corp: www.stocorp.com/#sle.
e. Substitutions: See Section 016000 - Product Requirements.

2.3 ACCESSORIES
A. Lath:
1. Wire Size: 17 gauge, 0.453 inch.
2. Galvanized: ASTM A641/A641M.
3. Opening Size: 11/16 by 1-1/2 inches.
4. Comply with ASTM C933.
5. Products:
a. Structa Wire; Megalath: www.structawire.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.
B. Finishing Accessories: ASTM C1063; extruded aluminum alloy (6063 T5), galvanizd steel sheet ASTM A924/A924M G90, rolled zinc, or rigid plastic, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed plaster edges.
C. Decorative Reveals: Fabricated from zinc in dimensions and configurations as indicated on Drawings.
D. Reinforcing Mesh: 4.5 oz/sq yd alkali-resistant mesh.
E. Water-Resistive Barrier: See Section 072500.
F. Rainscreen Drainage Material:
1. Rainscreen Drainage Mat: Polyester or polypropylene mesh.
a. Thickness: 1/4 inch.
b. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less (Class A), when tested in accordance with ASTM E84.
c. Seam Tape and Bug Screen: As recommended by rainscreen drainage mat manufacturer.
d. Manufacturers:
1) Advanced Building Products, Inc; Mortairvent: www.advancedbuildingproducts.com/#sle.
2) CavClear, a Division of Archovations Inc; CavClear Rainscreen Mat WS (With Scrim): www.cavclear.com/#sle.
3) ClarkDietrich; E-Screen: www.clarkdietrich.com/#sle.
4) Substitutions: See Section 016000 - Product Requirements.
2. Drainable Housewrap: Combination drainage layer/water-resistive sheet.
a. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less (Class A), when tested in accordance with ASTM E84.
b. Seam and Perimeter Tape: As recommended by housewrap manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify existing conditions are acceptable prior to starting this work.
B. Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are properly in place.

3.2 INSTALLATION - WATER-RESISTIVE BARRIER
A. Where cement plaster is installed as part of a barrier wall system, install two layers of water-resistive barrier in accordance with water-resistive barrier manufacturer's instructions.
B. Integrate water-resistive barrier with flashing accessories, and adjacent doors, windows, penetrations, and cladding transitions.
C. Apply water-resistive barrier horizontally with upper layer lapped over lower layer at least 2 inches.
D. Lap water-resistive barrier at least 6 inches at vertical joints.
E. Lap water-resistive barrier at least 16 inches beyond vertical line of inside and outside corners in both directions.
F. For two layer applications, start with two horizontal layers at bottom of exterior wall or structure.

3.3 INSTALLATION - RAINSCREEN DRAINAGE MATERIAL
- A. Install rainscreen drainage material and metal lath with accessories over sheathing material and water-resistive barrier with fastening system in accordance with ASTM C1063 into wood or metal studs. Install drainage material with filter fabric mortar screen to exterior.

3.4 MIXING
- A. Mix only as much plaster as can be used prior to initial set.
- B. Mix materials dry, to uniform color and consistency, before adding water.
- C. Do not retemper mixes after initial set has occurred.
- D. Protect mixtures from frost or freezing temperatures, contamination, and excessive evaporation.

3.5 APPLICATION
- A. Apply plaster in accordance with manufacturer's written instructions and comply with ASTM C926.
- B. Base Coats:
  - 1. Apply base coat(s) to fully embed lath and to specified thickness.
  - 2. Follow guidelines in ASTM C926 and manufacturer's written installation instructions for moist curing base coats and application of subsequent coats.
- C. Leveling Coat:
  - 1. Apply leveling coat to specified thickness.
  - 2. Fully embed reinforcing mesh in leveling coat.
- D. Finish Coats:
  - 1. Primer and Acrylic Coatings:
    - a. Remove surface contaminants such as dust and dirt without damaging substrate.
    - b. Apply primer in accordance with manufacturer's instructions.
    - c. Apply finish coating in number of coats and to thickness recommended by manufacturer.

3.6 TOLERANCES
- A. Maximum Variation from True Flatness: 1/4 inch in 10 feet.

3.7 REPAIR
- A. Patching: Remove loose, damaged or defective plaster and replace with plaster of same composition; finish to match surrounding area.

END OF SECTION

SECTION 093000

TILING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Ceramic and porcelain wall and floor tile.
- B. Ceramic trim.
- C. Non-ceramic trim.

1.2 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 - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar 2017.
- 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 or Latex-Portland Cement Mortar 1999 (Reaffirmed 2021).
- D. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive 2019.
- E. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar 2021.
- F. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy 1999 (Reaffirmed 2019).
- G. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout 1999 (Reaffirmed 2019).
- H. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout 1999 (Reaffirmed 2019).
- I. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework 2017 (Reaffirmed 2022).
- J. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units 2018.
- K. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar 1999 (Reaffirmed 2019).
- L. 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).
- M. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation 2019.
- N. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar 2019.
- O. ANSI A136.1 - American National Standard Specifications for Organic Adhesives for Installation of Ceramic Tile 2020.
- P. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel 2018.
- Q. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation 2023.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.4 SUBMITTALS
- A. See Section 013000 - 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 in size illustrating pattern, color variations, and grout joint size variations.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Tile: 1 percent of each size, color, and surface finish combination, but not less than one box of each type.

1.5 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
B. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

1.6 MOCK-UP
A. See Section 014000 - 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 the Work.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.8 FIELD CONDITIONS
A. Do not install solvent-based products in an unventilated environment.
B. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

PART 2 PRODUCTS

2.1 TILE
A. Manufacturers:
1. Refer to Finish Legend.
2. Substitutions: See Section 016000 - Product Requirements.
B. Tile Products: As scheduled.

2.2 TRIM AND ACCESSORIES
A. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
1. Applications:
a. Open Edges: Bullnose.
b. Inside Corners: Jointed.
c. Floor to Wall Joints: Cove base.
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. Open edges of wall tile.
b. Open edges of floor tile.
c. Wall corners, outside and inside.
d. Transition between floor finishes of different heights.
e. Expansion and control joints, floor and wall.
f. Floor to wall joints.
g. Borders and other trim as indicated on drawings.
2. Manufacturers:
a. Schluter-Systems: www.schluter.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.

2.3 SETTING MATERIALS
A. Manufacturers:

1. ARDEX Engineered Cements: www.ardexamericas.com/#sle.
2. Bostik Inc: www.bostik-us.com/#sle.
3. Custom Building Products: www.custombuildingproducts.com/#sle.
4. LATICRETE International, Inc: www.laticrete.com/#sle.
5. MAPEI: www.mapei.com.
6. Merkrete, by Parex USA, Inc: www.merkrete.com/#sle.
7. TEC, an H.B. Fuller Construction Products Brand: www.tecspecialty.com/#sle.
8. Substitutions: See Section 016000 - Product Requirements.

B. Improved Latex-Portland Cement Mortar Bond Coat: 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. ARDEX Engineered Cements; S 28: www.ardexamericas.com/#sle.
b. Custom Building Products; Complete Contact-LFT Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: www.custombuildingproducts.com/#sle.
c. LATICRETE International, Inc; LATICRETE 254 Platinum: www.laticrete.com/#sle.
d. Substitutions: See Section 016000 - Product Requirements.

C. Organic Adhesive: ANSI A136.1, thinset mastic type.
1. Use Type I in areas subject to prolonged moisture exposure.
2. Products:
a. ARDEX Engineered Cements; ARDEX D14: www.ardexamericas.com/#sle.
b. Custom Building Products; ReliaBond Ceramic Tile Adhesive - Type 1: www.custombuildingproducts.com/#sle.
c. LATICRETE International, Inc; LATICRETE 15 Premium Mastic: www.laticrete.com/#sle.
d. Merkrete, by Parex USA, Inc; Merkrete Merstik: www.merkrete.com/#sle.
e. Substitutions: See Section 016000 - Product Requirements.

2.4 GROUTS

A. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com/#sle.
2. Bostik Inc: www.bostik-us.com/#sle.
3. Custom Building Products: www.custombuildingproducts.com/#sle.
4. LATICRETE International, Inc: www.laticrete.com/#sle.
5. Merkrete, by Parex USA, Inc: www.merkrete.com/#sle.
6. Substitutions: See Section 016000 - Product Requirements.

B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
3. Color(s): As selected by Architect from manufacturer's full line.
4. Products:
a. ARDEX Engineered Cements; ARDEX FL: www.ardexamericas.com/#sle.
b. Custom Building Products; Fusion Pro Single Component Grout: www.custombuildingproducts.com/#sle.
c. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
d. Merkrete, by Parex USA, Inc; Merkrete Pro Grout: www.merkrete.com/#sle.
e. Substitutions: See Section 016000 - Product Requirements.

2.5 MAINTENANCE MATERIALS

A. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
1. Composition: Water-based colorless silicone.
2. Products:
a. Merkrete, by Parex USA, Inc; Merkrete Grout Sealer: www.merkrete.com/#sle.
b. Substitutions: See Section 016000 - Product Requirements.

2.6 ACCESSORY MATERIALS

A. Reinforcing Mesh: 2 by 2 inch size weave of 16/16 wire size; welded fabric, galvanized.

B. Backer Board: Coated glass mat type complying with ASTM C1178/C1178M; inorganic fiberglass mat on both surfaces and integral acrylic coating vapor retarder.
   1. Fire Resistant Type: Type X core, thickness 5/8 inch.
C. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
D. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
E. Verify that required floor-mounted utilities are in correct location.

3.2 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.

3.3 INSTALLATION - GENERAL
A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, 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. Sound tile after setting. Replace hollow sounding units.
H. Keep control and expansion joints free of mortar, grout, and adhesive.
I. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
J. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
K. 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.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS
A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F116, organic adhesive, with standard grout, unless otherwise indicated.
   1. Use uncoupling membrane under all tile unless other underlayment is indicated.

3.5 INSTALLATION - WALL TILE
A. Over coated glass mat backer board on studs, install in accordance with TCNA (HB) Method W245.
B. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.

3.6 CLEANING
A. Clean tile and grout surfaces.

3.7 PROTECTION

A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

SECTION 09 40 00

Integrated Ceiling Assemblies

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

a) Section Includes

1) Acoustical ceiling panel

2) Wire hangers, fasteners, main runners, cross tees, and wall angle moldings

3) Wallcovering finish.

4) Perimeter Trim

b) Alternates

1) Prior Approval: Unless otherwise provided for in the Contract documents, submit proposed product substitutions no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review and acceptance. Approved products will be set forth by the Addenda. If a substitution is included in a Bid and is not approved by an Addendum, the specified products shall be provided as in place of the substitute without additional compensation.

2) Submittals that do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

1.3 REFERENCES

a) American Society for Testing and Materials (ASTM):

1) ASTM A 1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability

2) ASTM A 641 Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire

3) ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process

4) ASTM C 645 Standard Specification for Metal Suspension Systems

5) ASTM C 636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels

6) ASTM C754 AND C1858 All installations should be in compliance with these tests.

7) ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

8) ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials

9) ASTM E 580 Installation of Metal Suspension Systems in Areas Requiring Moderate Seismic Restraint
10) ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
11) ASTM E 1414 Standard Test Method for Airborne Sound Attenuation between Rooms Sharing a Common Ceiling Plenum
12) ASTM E 1264 Classification for Acoustical Ceiling Products
13) ASTM E3090 All references to suspension component property testing per this test method.

b) B. International Building Code
c) C. ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality
d) D. NFPA 70 National Electrical Code
e) E. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
f) International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
g) International Code Council-Evaluation Services Report - Seismic Engineer Report
    a. 1. ESR 1289 - Armstrong Suspension Systems

1.4 SYSTEM DESCRIPTION

Continuous/Wall-to-Wall

1.5 SUBMITTALS

a) Shop Drawings: Layout and details of ceilings. Show locations of items that are to be coordinated with, or supported by the ceilings.
b) Installation Instructions: Submit manufacturer's installation instructions as referenced in Part three, Installation.
c) Product Data: Submit manufacturer's technical data for each type of ceiling unit and suspension system required.
d) Samples: Minimum 6 x 6 inch samples of specified panel; 8 inch long samples of exposed wall molding and suspension system, including main runner and 4 foot cross tees.
e) Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.
f) Non-Conformance: All products not conforming to the requirements of this specification and or the manufacturer's published values are to be disposed. The Contractor performing the work will replace with approved product at their expense.

1.6 QUALITY ASSURANCE

a) Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.
b) Fire Performance Characteristics: Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
c) Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 Classification.
d) Acoustical Panels: As with other architectural features located at the ceiling that may obstruct or skew the planned fire sprinkler pattern through possibly delay or accelerate the activation of the sprinkler or fire detection systems by channeling heat from a fire either toward or away from the device. Designers and

installers are advised to consult a fire protection engineer, NFPA 13, or their local codes for guidance where automatic fire detection and suppression systems are present.

e) Coordination of Work: Coordinate acoustical ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers. ACOUSTIBuilt Panels are 7/8" thick.

f) Installer Qualification: Subcontractor is an experienced Installer that has reviewed and understands the system installation instructions thoroughly. Subcontractor will follow written installation instructions and utilize approved equipment and procedures for finishing installation.

g) ACOUSTIBuilt is finished to a level 4 drywall finish equivalent. Installing ACOUSTIBuilt requires special attention to finishing details. Light coves and low angle lighting will exaggerate imperfections. Mock-ups and hands-on training are strongly recommended.

1.8 DELIVERY, STORAGE AND HANDLING

a) Deliver acoustical ceiling units to project site in original, unopened packages/crates and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

b) Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content. Store all material within temperature limits required by manufacturer.

c) Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.9 PROJECT CONDITIONS

a) Space Enclosure:

1) Building areas to receive ceilings shall be free of construction dust and debris. ACOUSTIBuilt panels should be installed in areas where the building is enclosed and the HVAC is continuously functioning. This product is not recommended for exterior applications, where standing water is present, or where moisture will come into direct contact with the ceiling.

i. HVAC should be designed, installed, and operated in accordance with ASHRAE Standard 62.1. It is also necessary for the area to be enclosed, for the HVAC systems to be functioning, and in continuous operations for the life of the product. Product is not intended for use where natural ventilation is part of the ventilation strategy and not recommended in areas where a differential plenum pressure exists.

1.10 WARRANTY

a) Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period. Failures include, but are not limited to the following:

a. Acoustical Panels: Manufacturer's defects in material

b. Grid System: Rusting and manufacturer's defects

b) Warranty Period:

a. Acoustical panels: Ten (10) years from date of substantial completion

b. Suspension: Ten (10) years from date of substantial completion

c) The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

a) Basis of Design ACOUSTIBuilt:

a. Armstrong World Industries, Inc.

b) Finish

a. Joint Compound Finish

b. Wallcovering finish per section 097200

c) Suspension Systems

a. Armstrong World Industries, Inc.

d) Perimeter Trim Systems

a. Armstrong World Industries, Inc.

2.2.1 ACOUSTICAL CEILING UNITS

a) Acoustical Panels

1) Surface Texture: Fine

2) Composition: Mineral Fiber

3) Color: White (Fine Texture Finish for ACOUSTIBuilt panels)

4) Size: 48 in x 72 in x 7/8 in - Item #2604

5) Edge Profile: Tapered edges four sides

6) Noise Reduction Coefficient (NRC): ASTM C 423; Panel 0.80 (UL)

7) Ceiling Attenuation Class (CAC): ASTM C 1414; Panel 46 (UL), System up to 48

8) Sabin: Cloud Applications: 0.80 Sabins/SF & 1.33 Sabins/SF with infill item 8200T10

9) Flame Spread: ASTM E 1264; Class A

10) Light Reflectance (LR) White Panel: ASTM E 1477; 0.87

11) Dimensional Stability: HumiGuard Plus

12) Recycle Content: Post-Consumer and Pre-Consumer – up to 75%

13) Material Ingredient Transparency: Health Product Declaration (HPD); Declare Label

14) Life Cycle Assessment: Third Party Certified Environment Product Declaration (EPD)

15) Acceptable Product: ACOUSTIBuilt panels #2604 No added formaldehyde as manufactured by Armstrong World Industries

16) Contact your local Armstrong Representative for required installation training at least 4-6 weeks before ordering materials and scheduling installation.

b) Finish

1. Joint Compound

a. Setting Compound: Lightweight setting-type drywall joint compound, Ultra lightweight drying-type drywall joint compound

b. Joint Tape: Self-Adhesive mesh drywall joint tape (Panel to Panel)

1. Use Setting Type Compound for initial coats and use Drying Type Compound for final coats per the installation instructions. DO NOT use any other type of drywall compound such as All-Purpose Compound.

2. Paper tape at the wall intersection

c) Suspension Systems

1. Armstrong Drywall Suspension Systems all main beams and cross tees shall be commercial quality hot-dipped galvanized steel

i. Main beam: manufactured main beam- 1-1/2" knurled face with ScrewStop™ reverse hem by 1-11/16 inches high. Drywall Main Beams are factory punched with cross tee

routs, hanger wire holes, and SuperLock™ main beam clip for a strong secure connection and fast accurate alignment. Drywall Main Beams are Heavy-duty performance per ASTM C635

ii. HD8906 - 12ft HD Drywall Main Beam 1-1/2 in

2. Cross Tees: manufactured cross tee- 1-1/2" knurled face with ScrewStop™ reverse hem by 1-1/2 inches high with factory punched cross tee routs and hanger wire holes and XL stake on clip for a strong secure connection.

   i. XL8945P - 4ft Drywall Cross Tee

3. Wall Molding:

   i. KAM12 - 12ft Knurled Angle Molding 1-1/4" Face

4. Hanger wire: a Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three times the design load, but not less than 12-gauge.

5. Fasteners (for Panel attachment)

   i. #6 x 1-5/8” Fine thread drywall screws

   ii. Recommended Adhesives: Loctite PL Premium Polyurethane Construction Adhesive, OSI F38 Drywall Panel Adhesive.

6. Perimeter Systems

   i. Commercial quality extruded aluminum alloy 6063 trim channel, factory finished in baked polyester paint. Commercial quality galvanized steel unfinished T-bar connection clips; galvanized steel splice plates.

      1. Color: White

      2. Size: 120 in X 4 in (also available in 6”)

      3. Recycle Content: Post-Consumer - 50% Pre-Consumer - 0%

      4. Acceptable Product: AXIOM One Piece for Drywall, 4in Straight – AX1PC4STR or Curved AX1PC4CUR as manufactured by Armstrong World Industries

   ii. Axiom Trim Channel:

      1. 10 in Axiom Classic Straight

   iii. Axiom Accessories:

      1. AXSPLICE - Splice Plate

7. Finish: Cork finish wallcovering – see section 097200.

PART 3 - EXECUTION

a) Prior to installation, contact your Armstrong Installation Systems Specialist (ISS). Before installation, inspect previous work of all other trades. Verify that all work is complete and accurate to the point where this installation may properly proceed in strict accordance with framing shop drawings.

b) If framing preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

c) The system installation is similar to a conventional drywall installation. However, there are key differences in both material substrate and methods of finishing and installation that make this system unique. Installers should review and follow all written directions of the installation instructions and view the installation video. https://www.armstrongceilings.com/commercial/en/commercial-ceilings-walls/acoustibuilt-ceiling-panels.html#!video=6034280272001

d) Installation: In accordance with all approved plans, details, and manufacturer's installation guidelines located in the Armstrong ACOUSTIBuilt Assembly and Installation Instructions (BPLA-299099) Click to follow to ACOUSTIBuilt Installation Instructions, and Drywall Grid Systems Hanging and Framing Flat Ceilings Installation Guides (BPCS3539) Click to follow to Hanging and Framing Flat Drywall Instructions.

1. Install seismic components if required by the building code. Seismic components to be specified on the architectural plans by the project engineer or design team.
2. Suspend main beam from overhead construction with hanger wires spaced 4-0 ft. on center along the length of the main runner. Install hanger wires plumb and straight.
3. 48” Cross tees shall be installed 16” on center. Extra cross tees are required at 72” every 12’. All 4 panel edges must be supported by a grid main or tee.
4. Install wall moldings/perimeter trim at intersection of suspended ceiling and vertical surfaces
5. Main runners and cross tees shall be attached at perimeter conditions
6. When determining the grid layout, consider the long edges of the boards must run parallel with the mains.
7. This system relies on a square grid system to ensure panel edges align at centers of cross tees. If the installation does not meet these squareness requirements, the panel edges may run off the grid system.
    i. The system must be square to within 1/8" over a 48" x 48" module.
    ii. The suspension system must be leveled to within 1/4" in 10'.
8. Floating perimeters must be trimmed with either Axiom® One-Piece Drywall Trim or Axiom® Classic with Bottom Trim for ACOUSTIBuilt™. Refer to the installation instructions for integration with ACOUSTIBuilt installations.
9. Install access doors where plenum access is required. Refer to the RCP for the location)

3.2.1 PREPARATION

a) Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations.

b) Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.

3.2.3 INSTALLATION

Follow manufacturer installation instructions. Armstrong ACOUSTIBuilt Assembly and Installation Instructions (BPLA-299099)

A) Control joints are required following the standards used for gypsum board listed in ASTM C840, Section 20
    I. Ceilings with perimeter relief cannot exceed 50 LF and 2500 SF between control joints
    II. Ceilings without perimeter relief cannot exceed 30 LF and 900 SF between control joints

B) Panel joints and fasteners are finished with tape and compound to create a flat surface. While the materials used to finish ACOUSTIBuilt panels are also used to finish drywall, the procedure has unique requirements.

C) Joint compound coverage shall be limited to preserve the acoustical performance of the panels. Compound at panel joints shall not exceed 8 inch widths. Compound applied to field fasteners shall not exceed 2 inch by 2-inch areas. All compound shall be smooth and free of tool marks and ridges. Panels are to be finished with taping knives. Production tools, including boxes, are detailed on the installation instructions.

3.2.4 ADJUSTING AND CLEANING

a) To remove soot, dirt, and dust use a vacuum operating at low power with a soft brush or use a dry soot cleaning sponge.

b) Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage.

End of Section

SECTION 095100

ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.2 REFERENCE STANDARDS
- A. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings 2022.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels 2019.
- C. 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.
- D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products 2023.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate grid layout and related dimensioning.
- C. Product Data: Provide data on suspension system components.
- D. Samples: Submit two full size samples illustrating material and finish of acoustical units.
- E. Samples: Submit two samples each, 8 inches long, of suspension system main runner.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  1. See Section 016000 - Product Requirements, for additional provisions.
  2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.5 QUALITY ASSURANCE
- A. Fire-Resistive Assemblies: Complete assembly listed and classified by UL (FRD) for the fire resistance indicated.
- B. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.6 FIELD CONDITIONS
- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Acoustic Tiles/Panels:
  1. Armstrong World Industries, Inc: www.armstrong.com/#sle.
  2. Substitutions: See Section 016000 - Product Requirements.
- B. Suspension Systems:
  1. Same as for acoustical units.
  2. Substitutions: See Section 016000 - Product Requirements.

2.2 ACOUSTICAL UNITS
- A. Acoustical Units - General: ASTM E1264, Class A.
  - 1. Basis-of-Design Products: As scheduled.

2.3 SUSPENSION SYSTEM(S)
- A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
- B. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; heavy-duty.
  - 1. Profile: Tee; 9/16 inch wide faces, per panel type.
  - 2. Construction: Double web.
  - 3. Finish: White painted.

2.4 ACCESSORIES
- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Perimeter Moldings: Same material and finish as grid.
  - 1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
- C. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.2 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. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- E. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- I. Do not eccentrically load system or induce rotation of runners.
- J. 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.

3.3 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 units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
  - 1. Cut to fit irregular grid and perimeter edge trim.
  - 2. Make field cut edges of same profile as factory edges.
  - 3. Double cut and field paint exposed reveal edges.
- G. Where round obstructions occur, provide preformed closures to match perimeter molding.
- H. Lay acoustical insulation for a distance of 48 inches either side of acoustical partitions as indicated.

I. Install hold-down clips on each panel to retain panels tight to grid system; comply with fire rating requirements.
J. Install hold-down clips on panels within 20 ft of an exterior door.

3.4 TOLERANCES
A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 54 16
LUMINOUS CEILINGS

PART 1 - GENERAL
1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section

1.2 SUMMARY

A. Section Includes

1. Luminous Canopies
2. Cable hangers and fasteners

B. Related Selections

1. Section 09 51 00 (09510) - Acoustical Ceilings
2. Section 09 20 00 (09250) - Plaster and Gypsum Board
3. Division 23 (15) Sections - HVAC
4. Division 26 (16) Sections - Electrical

C. Alternates

1. Prior Approval: Unless otherwise provided for in the Contract documents, proposed product substitutions may be submitted no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architects review of the proposal for acceptability and approved products will be set forth by the Addenda. If included in a Bid are substitute products which have not been approved by Addenda, the specified products shall be provided without additional compensation.

2. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Panel design, size, composition, color, and finish; suspension system component profiles and sizes; compliance with the referenced standards.

1.3 REFERENCES
A. International Building Code

B. NFPA 286: Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each type of canopy system required.

B. Installation Instructions: Submit manufacturer's installation instructions.

C. Samples: Minimum 2 inch x 3 inch samples of specified canopy.

D. Shop Drawings: Layout and details of canopies. Show locations of items which are to be coordinated with canopies.

E. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.

1.5 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide canopies and method of attachment by a single manufacturer.

B. Coordination of Work: Coordinate canopy work with installers of related work including, but not limited to suspended ceilings, building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

C. Infusion panels, as with other architectural features located at the ceiling, may obstruct or skew the planned fire sprinkler water distribution pattern, or possibly delay or accelerate the activation of the sprinkler or fire detection systems by channeling heat from a fire either toward or away from the device. Designers and installers are advised to consult a fire protection engineer, NFPA 13, or their local codes for guidance where automatic fire detection and supression systems are present.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver canopies to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing canopies, permit them to reach room temperature and a stabilized moisture content.

C. Handle canopies carefully to avoid damaging units in any way.
1.7 PROJECT CONDITIONS

A. Space Enclosure:

Building areas to receive canopies shall be free of construction dust and debris. Products can be installed up to 100°F (38°C) and in spaces before the building is enclosed, where HVAC systems are cycled or not operating. Cannot be used in exterior applications, where standing water is present, or where moisture will come in direct contact with the canopy.

1.8 WARRANTY

A. Infusion Products: Submit a written warranty executed by the manufacturer, agreeing to repair or replace canopies that fail within the warranty period. Failures include, but are not limited to:

1. Infusion: Manufacturer's defects.

2. Attachment devices: Rusting and manufacturer's defects.

B. Warranty Period:

1. Infusion Products: One (1) year from date of substantial completion.
2. Attachment devices: One (1) year from date of substantial completion.

C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

1. Armstrong World Industries, Inc.
2.1.1 INFUSIONS Shapes

A. INFUSIONS Shapes

a. Surface Texture: Smooth
b. Composition: Polycarbonate
c. Color: Refined Reef
d. Size: 48" x 48"
e. Edge Detail: Concept Suspension
f. Flame Spread: Class A per NFPA 286
g. Dimension Stability: HumiGuard Plus
h. Acceptable Product: INFUSIONS Shapes, 7156 as manufactured by Armstrong World Industries

2.2 MANUFACTURERS

A. Installation Hardware Accessories:

a. Armstrong World Industries, Inc.

2.2.1 ATTACHMENT SYSTEMS

A. Installation Hardware Kits

B. Infusion Shapes -

7149 - Infusions Shapes 4 point hanger kit

PART 3 - EXECUTION

3.1 PREPARATION

A. Measure each ceiling area and establish layout of canopies. Comply with reflected ceiling plans. Coordinate panel layout with mechanical, electrical and sprinkler fixtures.

3.2 INSTALLATION

A. Install Infusion products as directed in the manufacturer's installation instructions and in compliance with the authorities having jurisdiction.

3.3 ADJUSTING AND CLEANING

A. Replace damaged and broken panels.

B. Clean exposed surfaces of canopies per installation instructions.

END OF SECTION

SECTION 09 54 43

HEXAGONAL CEILING BAFFLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

a) Section Includes:

1. Non-Woven layered and formed PET ceiling panels.
2. Wire hangers, fasteners, main runners, cross tees, wall angle moldings and accessories.

b) Alternates

1. Prior Approval: Unless otherwise provided for in the Contract documents, submit proposed product substitutions no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review and acceptance. Approved products will be set forth by the Addenda. If a substitution is included in a Bid and is not approved by an Addendum, the specified products shall be provided as in place of the substitute without additional compensation.
2. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); panel design, size, composition, color, and finish; suspension system component profiles and sizes; compliance with the referenced standards.

1.3 REFERENCES

a) American Society for Testing and Materials (ASTM):

1. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
3. ASTM E580 Application of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Requiring Seismic Restraint.
4. ASTM C423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
5. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests
6. International Building Code
7. ASHRAE Standard 62 1 2004 Ventilation for Acceptable Indoor Air Quality
8. California Department of Public Health CDPH/EHLB Emission Standard Method Version 1.2 2017
9. California Green Building Standards Code Cal Green Title 24
10. NFPA 70 National Electrical Code
11. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
12. International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
13. LEED - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings.

1.4 SUBMITTALS

a) Shop Drawings: Provide layout including panel type and components used in the assembly of the ceiling. Show locations of items that are to be coordinated with the ceiling.

b) Installation Instructions: Submit manufacturer's installation instructions as referenced in Part three, Installation.

c) Samples: Minimum 6-inch x 6-inch sample of the colors selected in the ceiling design, include manufacturer sample of suspension components.

d) Product Data: Submit manufacturer's technical data for each type of ceiling unit and suspension system required.

e) Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.

f) Non-Conformance: All products not conforming to the requirements of this specification and or the manufacturer's published values are to be disposed. The Contractor performing the work will replace with approved product at their expense.

1.5 QUALITY ASSURANCE

a) Single-Source Responsibility: Provide ceiling panel units and suspension components by a single manufacturer.

b) Fire Performance Characteristics: Identify ceiling components with appropriate markings of applicable testing and inspecting organization.

   1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with Class A products.

      i. Flame Spread: 25 or less.

      ii. Smoke Developed: 450 or less.

c) Fire Sprinklers: Ceiling systems may obstruct or skew the planned water distribution pattern of fire sprinkler. In addition to creating a possible delaying or accelerating the activation of the sprinkler of fire detection system. Consult with a fire protection engineer for guidance.

d) Coordination of Work: Coordinate ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.6 DELIVERY, STORAGE, AND HANDLING

a) Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

b) Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

c) White gloves are recommended for handling to avoid marring, especially on light color panels.

1.7 PROJECT CONDITIONS

a) Space Enclosure:

   I. Building areas to receive ceilings shall be free of construction dust and debris.

1.8 WARRANTY

a) Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period.

b) Warranty Period:

   I. Acoustical panels and Suspension: One (1) year from date of substantial completion

c) The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.9 MAINTENANCE

a) Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.

   1. Ceiling Units: Furnish quality of full-size units equal to 2.0 percent of amount installed.
   2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 1.0 percent of amount installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

a) Basis of Design ARKTURA Soundstar Ceiling Clouds:

   1. ARKTURA LLC

2.2.0 CEILING UNITS

a) Ceiling Panel:

   1. Surface Texture: 12mm Soft Sound
   2. Composition: Non-woven layered and formed Polyester felt (PET) fiber
   3. Color: Chose by Architect from Soft Sound Color Group A.
   4. Sizes:
      i. 5’ x 5’-9 5/16”
         1. Depth: 12” and 24” per plans.
   5. Acoustical Performance is tested per ASTM C423 and mounted in accordance with ASTM E795. NRC of 0.85 based on E-400 mounting*
   6. Flame Spread: Class A
   7. Integrated welded steel frame.
   8. Single and multiple modules
   9. Suspension: 1/16” cable
   10. Hardware: stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

a) Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out.

b) Proper designs for both supply air and return air, maintenance of the HVAC filters and building interior space are essential to minimize soiling. Before starting the HVAC system, make sure supply air is properly filtered and the building interior is free of construction dust.

3.2 PREPARATION

a) Measure each ceiling area and establish layout of acoustical units per plan. Coordinate panel layout with mechanical and electrical fixtures.

3.3 INSTALLATION

a) Install suspension system in compliance with the approval of the authorities having jurisdiction, and in accordance with the manufacturer's Installation Instructions.

3.4 ADJUSTING AND CLEANING

a) Replace damaged and broken panels.

b) Clean exposed surfaces of ceilings panels, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage.

END OF SECTION

SECTION 095446

ACOUSTICAL CEILING BAFFLES

PART 1 GENERAL

1.1 RELATED DOCUMENTS
- A. Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY
- A. Section Includes:
- B. Non-Woven layered and formed Polyester felt fiber ceiling panels
- C. Wire hangers, fasteners, main runners, cross tees, wall angle moldings and accesso

1.3 REFERENCES
- A. American Society for Testing and Materials (ASTM):
  1. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
  2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
  3. ASTM E580 Application of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Requiring Seismic Restraint.
  4. ASTM C423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
  5. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests
  6. International Building Code
  7. ASHRAE Standard 62 1 2004 Ventilation for Acceptable Indoor Air Quality
  8. California Department of Public Health CDPH/EHLB Emission Standard Method Version 1.2 2017
  9. California Green Building Standards Code Cal Green Title 24
  10. NFPA 70 National Electrical Code
  11. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
  12. International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
  13. Underwriters Laboratories Green Guard
  14. International Living Building Challenge

1.4 SUBMITTALS
- A. Shop Drawings: Provide layout including panel type and components used in the assembly of the ceiling. Show locations of items that are to be coordinated with the ceiling.
- B. Installation Instructions: Submit manufacturer's installation instructions as referenced in Part three, Installation.
- C. Samples: Minimum 6 inch x 6 inch sample of the colors selected in the ceiling design, include manufacturer sample of suspension components.
- D. Product Data: Submit manufacturer's technical data for each type of ceiling unit and suspension system required.
- E. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.
- F. Non-Conformance: All products not conforming to the requirements of this specification and or the manufacturer's published values are to be disposed. The Contractor performing the work will replace with approved product at their expense.

1.5 QUALITY ASSURANCE
- A. Single-Source Responsibility: Provide ceiling panel units and suspension components by a single manufacturer.
- B. Fire Performance Characteristics: Identify ceiling components with appropriate markings of applicable testing and inspecting organization.

1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with Class A products.
   a. Flame Spread: 25 or less
   b. Smoke Developed: 450 or less

C. Fire Sprinklers: Ceiling systems may obstruct or Skew the planned water distribution pattern of fire sprinkler. In addition to creating a possible delaying or accelerating the activation of the sprinkler of fire detection system. Consult with a fire protection engineer for guidance.

D. Coordination of Work: Coordinate ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

1.7 PROJECT CONDITIONS

A. Space Enclosure:
   1. HumiGuard Plus Ceilings: Building areas to receive ceilings shall be free of construction dust and debris. Products with HumiGuard Plus performance and hot dipped galvanized steel suspension systems can be installed up to 120°F (49°C) and in spaces before the building is enclosed, where HVAC systems are cycled or not operating. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

1.8 WARRANTY

A. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period.

B. Warranty Period:
   1. Acoustical panels and Suspension: One (1) year from date of substantial completion

C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.9 MAINTENANCE

A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
   1. Ceiling Units: Furnish quality of full-size units equal to 2.0 percent of amount installed.
   2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 1.0 percent of amount installed.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design FELTWORKS Blades:
   1. Armstrong World Industries, Inc.

B. Suspension Systems:
   1. Armstrong World Industries, Inc.

2.2 CEILING UNITS

A. Ceiling Panel:
   1. Surface Texture: Soft
   2. Composition: Non-woven layered and formed Polyester felt (PET) fiber
   3. Color: Cotton, Whisper, Flannel, Smoke, Shadow, Midnight, Wheat, Mocha, Iris, Buttercup, Tangerine, Apple, Highland, Elderberry and Celestial
   4. Edge Profile: Square
   5. Light Reflectance (LR) Cotton Panel: ASTM E 1477; 0.80
   6. Material Ingredient Transparency: Health Product Declaration (HPD); Declare Label
   7. Green Guard Gold Certified

8. Sizes: 6533KEF0001 - 96" Ebbs and Flows Kit - 24 pcs total 96" x 3/8"
9. Acoustical Performance is tested per ASTM C423 and mounted in accordance with ASTM E795. NRC of 0.85 based on E-400 mounting*
10. Flame Spread: Class A
11. Dimensional Stability: HumiGuard Plus.
12. Acceptable Product: FELTWORKS Blades Ebbs & Flows as manufactured by Armstrong World Industries.

2.3 SUSPENSION SYSTEMS
A. Armstrong Aluminum Suspension System:
1. Acceptable Product: Listed Below as manufactured by Armstrong World Industries, Inc. Items are available in custom colors; contact ASQuote@armstrongceilings.com.
a. Item 8230 – 96” Suspension Bar for 3/8” FeltWorks Blades connector holes on both ends
b. Item 6651AB - 96” Suspension Bar End-to-End Connectors
c. Item 6655 – Blades Hanging Kit – Each kit includes 4 hanging assemblies, use on kit for each suspension

PART 3 EXECUTION

3.1 EXAMINATION
A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out.
B. Proper designs for both supply air and return air, maintenance of the HVAC filters and building interior space are essential to minimize soiling. Before starting the HVAC system, make sure supply air is properly filtered and the building interior is free of construction dust.

3.2 PREPARATION
A. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders, and comply with reflected ceiling plans. Coordinate panel layout with mechanical and electrical fixtures.

3.3 INSTALLATION
A. Install suspension system and blades in compliance with the approval of the authorities having jurisdiction, and in accordance with the manufacturer’s FELTWORKS Blades Installation Instructions.

3.4 ADJUSTING AND CLEANING
A. Replace damaged and broken panels.
B. Clean exposed surfaces of ceilings panels, including trim, edge moldings, and suspension members. Comply with manufacturer’s instructions for cleaning and touch up of minor finish damage.

END OF SECTION

SECTION 096500

RESILIENT FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Resilient tile flooring.
- B. Resilient base.
- C. Installation accessories.

1.2 REFERENCE STANDARDS
- A. ASTM D6329 - Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers 1998 (Reapproved 2023).
- B. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source 2019a, with Editorial Revision (2020).
- C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2022.
- D. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile 2020.
- E. ASTM F1861 - Standard Specification for Resilient Wall Base 2021.
- F. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source 2023.
- G. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings 2018.
- H. UL 2824 - GREENGUARD Certification Program Method for Measuring Microbial Resistance from Various Sources Using Static Environmental Chambers Current Edition, Including All Revisions.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Shop Drawings: Indicate floor patterns.
- D. Verification Samples: Submit two samples, in size illustrating color and pattern for each resilient flooring product specified.
- E. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.
- F. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of subfloor is acceptable.
- G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.4 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.

1.5 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 and 90 degrees F.
- D. Protect roll materials from damage by storing on end.
- E. Do not double stack pallets.

1.6 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 to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.1 TILE FLOORING
- A. Vinyl Tile (LVT): Printed film type, with transparent or translucent wear layer.
  - 1. Products:
    - a. As scheduled.
  - 2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
  - 3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
  - 4. Mold and Microbial Resistance: Highly resistant when tested in accordance with ASTM D6329; certified in accordance with UL 2824.
  - 5. Plank Tile Size: 4 by 36 inch.
  - 6. Wear Layer Thickness: 0.020 inch.
  - 7. Total Thickness: 0.125 inch.
  - 8. Color: As indicated.

2.2 RESILIENT BASE
- A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; style as scheduled.
  - 1. Manufacturers:
    - a. As scheduled.
    - b. Substitutions: See Section 016000 - Product Requirements.
  - 2. Height: 4 inch.
  - 3. Thickness: 0.125 inch.
  - 4. Finish: Satin.
  - 5. Color: As indicated on drawings.
  - 6. Accessories: Premolded external corners and internal corners.
  - 7. Acceptable Products: As scheduled.

2.3 ACCESSORIES
- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.
- C. Adhesive for Vinyl Flooring:
  - 1. Manufacturers:
    - a. H.B. Fuller Construction Products, Inc; TEC Flexera Premium Universal Adhesive: www.tecspecialty.com/#sle.
    - b. Stauf USA, LLC: www.staufusa.com/#sle.
    - c. Substitutions: Section 01 6000 - Product Requirements.
- D. Moldings, Transition and Edge Strips: Vinyl.
  - 1. Manufacturers:
    - a. Substitutions: See Section 016000 - Product Requirements.
- E. Filler for Coved Base: Plastic.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
  - 1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION
- A. Remove existing resilient flooring and flooring adhesives; follow the recommendations of RFCI (RWP).
- B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- C. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- D. Prohibit traffic until filler is fully cured.
- E. Clean substrate.
- F. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.3 INSTALLATION - GENERAL
- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.

3.4 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. Tile Pattern: As indicated.
- C. Install plank tile with a random offset of at least 6 inches from adjacent rows.

3.5 INSTALLATION - RESILIENT BASE
- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches 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.
- D. Scribe and fit to door frames and other interruptions.

3.6 CLEANING
- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

3.7 PROTECTION
- A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 096813

TILE CARPETING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Carpet tile, fully adhered.

1.2 REFERENCE STANDARDS

1.3 SUBMITTALS
- A. See Section 013000 - 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. Shop Drawings: Indicate layout of joints and direction of carpet pile.
- D. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.
- E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- F. Concrete Sub-floor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.
- G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.
  - 2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.4 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.

1.5 FIELD CONDITIONS
- A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Tile Carpeting:
  - 1. As scheduled.
  - 2. Substitutions: See Section 016000 - Product Requirements.

2.2 MATERIALS
- A. Products:
  - 1. As scheduled.

2.3 ACCESSORIES
- A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Edge Strips: Embossed aluminum, color as selected by Architect.
- C. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for flooring installation by testing for moisture and pH.
   1. Test in accordance with ASTM F710.
   2. Conduct tests by an independent testing agency acceptable to Owner.
D. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION
A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
D. Vacuum clean substrate.

3.3 INSTALLATION
A. Starting installation constitutes acceptance of sub-floor 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. Fully adhere carpet tile to substrate.
G. Trim carpet tile neatly at walls and around interruptions.
H. Complete installation of edge strips, concealing exposed edges.

3.4 CLEANING
A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 097200

WALL COVERINGS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Surface preparation.
- B. Cork wall covering.

1.2 REFERENCE STANDARDS
- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.

1.3 SUBMITTALS
- A. See Section 013000 - 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. Samples: Submit two samples of wall covering in size illustrating color, finish, and texture.
- E. Test Reports: Indicate verification of flame and smoke ratings, when tested by UL.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

1.4 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.

1.5 MOCK-UP
- A. Provide panel, 2 panel drops wide, full height, illustrating installed wall covering.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.

1.6 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.

1.7 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 measured mid-height at substrate surfaces.

PART 2 PRODUCTS

2.1 WALL COVERINGS
- A. General Requirements:
  1. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
- B. Tackable Wall Covering:
  1. Thickness: 6 mm.
  2. Flexibility, EN-ISO 24344: Ø 50 mm, according to method A.
  3. Sound Absorption Coefficient, EN-ISO 354: αw 0.1 (typical).
  4. Basis-of-Design Product: Forbo; Bulletin Board.
- C. Wall Covering: Natural cork wall panels, conforming to the following:
  1. Thickness: 4 mm.
  2. Product:

a. Muratto; Cork Bricks Grand: www.muratto.com.

D. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.
E. Substrate Filler: As recommended by adhesive and wall covering manufacturers; compatible with substrate.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that substrate surfaces are prime painted and ready to receive work, and conform to requirements of the 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 nor vary at a rate greater than 1/16 inch/ft.

3.2 PREPARATION
A. Fill cracks in substrate and smooth irregularities with filler; sand smooth.
B. Wash impervious surfaces with tetra-sodium phosphate, rinse and neutralize; wipe dry.
C. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
D. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.
E. Marks: Seal with shellac those that may bleed through surface finishes.
F. Vacuum clean surfaces free of loose particles.

3.3 INSTALLATION
A. Apply adhesive and wall covering in accordance with manufacturer's instructions.
B. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.
C. Do not seam within 2 inches of internal corners or within 6 inches of external corners.
D. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.
E. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.

3.4 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.

3.5 PROTECTION
A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 098430

SOUND-ABSORBING WALL AND CEILING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Sound-absorbing panels.
- B. Mounting accessories.

1.2 REFERENCE STANDARDS
- A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method 2023.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.
- C. ASTM E795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests 2023.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's printed data sheets for products specified.
- C. Shop Drawings: Fabrication and installation details, panel layout, fabric orientation, and wood grain orientation.
- D. Verification Samples: Fabricated samples of each type of panel specified; 12 by 12 inch, showing construction, edge details, and fabric covering.
- E. Test Reports: Certified test data from an independent test agency verifying that panels meet specified requirements for acoustical and fire performance.
- F. Manufacturer's qualification statement.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  1. See Section 016000 - Product Requirements, for additional provisions.
  2. Extra Panels: Quantity equal to 5 percent of total installed, but not less than one of each type.

1.4 QUALITY ASSURANCE

PART 2 PRODUCTS

2.1 PLASTIC SOUND-ABSORBING UNITS
- A. Manufacturers:
  1. MDC Interior Solutions; MDC Zintra: www.mdcwall.com/#sle.
  2. Substitutions: See Section 016000 - Product Requirements.
- B. Thermoformed Copolymer Plastic Acoustical Panels for Walls and Ceilings:
  1. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
  2. Sound Absorption: Noise Reduction Coefficient (NRC) or Sound Absorption Average (SAA) of 0.45 to 0.95 when tested in accordance with ASTM C423 for Type A mounting, per ASTM E795.
  3. Surface Pattern: Echelle.
  4. Color: Slate.
  5. Mounting: Back-mounted with mechanical fasteners.

2.2 FABRICATION

2.3 ACCESSORIES
- A. Back-Mounting Accessories: Manufacturer's standard accessories for concealed support, designed to allow panel removal:

PART 3 EXECUTION

3.1 EXAMINATION
- A. Examine substrates for conditions detrimental to installation of acoustical units. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION
- A. Install acoustical units in locations as indicated, following manufacturer's installation instructions.
- B. Install mounting accessories and supports in accordance with shop drawings.
- C. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.
- D. Install acoustical units to construction tolerances of plus or minus 1/16 inch for the following:
  1. Plumb and level.
  2. Flatness.

3.3 CLEANING
- A. Clean sound-absorptive panels upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

3.4 PROTECTION
- A. Provide protection of installed acoustical panels until Date of Substantial Completion.
- B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION

SECTION 099100

PAINTING

PART 1 - GENERAL

1.1 SUMMARY
- A. Related Documents: General and Supplementary Conditions of the Contract, Division 01 General Requirements, and Drawings are applicable to this Section.
- B. Section Includes:
  1. Complete surface preparation and finishing for field application of coatings and requirements for field finishing mechanical and electrical equipment.
  2. Examine specifications for various other trades and their provisions regarding their painting. Surfaces that are left unfinished by other sections of the specifications shall be painted or finished as a part of this Section.
  3. Colors, including deep tones, will be selected by the Architect. Number of colors to be used on job will be determined by Architect.

1.2 SURFACES NOT TO RECEIVE FIELD FINISHING
- A. Do not paint copper, bronze, chrome plated items, nickel, stainless steel, Monel metal, lead, face brick, prefinished wall, ceiling, and floor coverings, items with factory applied final finish (except where exposed on roofs and in finished spaces), elevator shafts, crawl spaces, chases, and plenums above suspended ceilings unless otherwise specified or scheduled.

1.3 DEFINITIONS
- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.4 QUALITY ASSURANCE
- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with 3 years' experience.
- B. Applicator: Company specializing in commercial painting and finishing with 2 years' experience.
- C. Product Labels: Include manufacturer's name, type of paint, stock number, color and label analysis on label of containers.

1.5 REGULATORY REQUIREMENTS
- A. Conform to applicable building code for flame spread/fuel contribution/smoke development rating requirements for finishes.
- B. Comply with applicable city, county, state, and federal requirements and ordinances regarding maximum VOC (Volatile Organic Compound) content of all coatings.

1.6 TESTS
- A. Provide periodic testing with Wet Film Thickness gage to verify that proper thickness of finish coatings are being applied.

1.7 SUBMITTALS
- A. Provide product data describing physical performance criteria and composition on all finishing products.
- B. Submit 2 samples, 12 by 12 inches in size illustrating range of colors and textures selected for each surface finishing product scheduled.
- C. Submit certification from manufacturer of coatings listing all products proposed for each. Certify that each product meets current applicable regulations and ordinances regarding maximum VOC content.

1.8 FIELD SAMPLES
- A. Provide field sample panel, 96 inches long by 96 inches wide, illustrating each coating color, texture, and finish intended for use.
- B. Locate where directed.
- C. Accepted sample may remain as part of the Work.

1.9 DELIVERY, STORAGE, AND HANDLING
- A. Deliver, store, and protect products under provisions of Division 01 section “Product Requirements”

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
C. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
D. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well-ventilated area, unless required otherwise by manufacturer's instructions.
E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.10 ENVIRONMENTAL REQUIREMENTS
A. Do not apply materials when surface and ambient temperatures are outside the ranges required by paint manufacturer.
B. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
C. Do not apply exterior coatings during rain or snow, or when relative humidity is above 75 percent, unless required otherwise by manufacturer's instructions.
D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
E. Minimum Application Temperature for Varnish and Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
F. Provide lighting level of 80 ft candles measured mid- height at substrate surface.

1.11 EXTRA STOCK
A. Provide a 5 gallon container of each color to Owner.
B. Label each container with color, color number, texture, and room locations, in addition to the manufacturer's label.
C. Furnish under provisions of Section 017000.

1.12 SCAFFOLDS AND PROTECTION
A. Provide adequate safe ladders, scaffolds, and stages necessary to complete work.
B. Protect completed finish and paint work, and protect adjacent finish surfaces from paint splatter, spills and stains. Use adequate drop cloths and masking procedures during progress of work.

1.13 PRECAUTIONS
A. Do not store paints, oils, thinners and other flammable items inside the building and shall be stored in approved containers when not in actual use during the painting job. The fire hazard shall be kept at a minimum.
B. Precaution shall be taken to protect the public and construction workers during the progress of the work.
C. Furnish a temporary fire extinguisher of suitable chemicals and capacity, located near flammable materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturers: Subject to compliance with requirements indicated, provide products of one of the following:
1. Sherwin-Williams.
2. P.P.G. Industries.
3. Behr Process Corporation (Behr).
B. Materials selected for coating systems for each type surface shall be product of a single manufacturer unless otherwise specified. Secondary products such as linseed oil, turpentine and shellacs shall be first quality products of a reputable manufacturer.

2.2 MATERIALS
A. Coatings: Ready mixed. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating with good flow and brushing properties; capable of drying or curing free of streaks or sags.
B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
C. Patching Materials: Latex filler.

2.3 FINISHES
A. Color and Sheen: As scheduled.

2.4 INTERIOR PAINT SCHEDULE

A. Drywall (Gypsum):
   1. Acrylic Latex:
      a. PPG Paints: 1 coat PPG Paints Speedhide Zero VOC Primer 6-4900XI, 2 coats PPG Paints Speedhide Zero VOC. Sheen as indicated.
      b. Sherwin-Williams: 1 coat High Build Latex Primer B28W8601, 2 coats Sherwin-Williams
      c. ProMar 200 Zero VOC. Sheen as indicated.
      d. Behr: 1 coat Behr Premium Plus Interior Drywall Primer 73, 2 coats Behr Pro i300 Interior Paint. Sheen as indicated.

B. CMU, Concrete Block:
   1. Acrylic Latex:
      a. PPG Paints: 1 coat PPG Paints Speedhide Block Filler 6-15 primer, 2 coats PPG Paints Speedhide Zero VOC. Sheen as indicated.
      b. Sherwin-Williams: 1 coat PrepRite Block Filler B25W25, 2 coats Sherwin-Williams ProMar 200 Zero VOC. Sheen as indicated.
      c. Behr: 1 coat Behr Pro Block Filler primer 50, 2 coats Behr Pro i300 Interior Paint. Sheen as indicated.

C. CMU, Concrete Block (Wet Areas):
   1. High Performance Coating, Water-Based Epoxy:
      a. PPG Paints: 1 coat Pitt-Glaze High Performance Acrylic Latex Block Filler 16-90 primer, 2 coats Pitt-Glaze WB Water-Borne Acrylic Epoxy 16-551. Sheen as indicated.
      b. Sherwin-Williams: 1 coat Cement-Plex B42W200/B42V201 primer, 2 coats Sherwin-Williams Water Based Catalyzed Epoxy B70 Series. Sheen as indicated.
      c. Behr: 1 coat Behr Pro Block Filler Primer 50, 2 coats Behr Pro Pre-Catalyzed Waterborne Epoxy. Sheen as indicated.

D. Wood Trim and Doors:
   1. Acrylic Latex:
      a. PPG Paints: 1 coat Speedhide Interior Latex Sealer 6-2, 2 coats PPG Paints Speedhide Zero VOC. Sheen as indicated.
      b. Sherwin-Williams: 1 coat Premium Wall & Wood Primer B28W8111, 2 coats Sherwin-Williams ProMar 200 Zero VOC. Sheen as indicated.
      c. Behr: Behr Premium Plus All-In-One Primer & Sealer 75, 2 coats Behr Pro i300 Interior Paint. Sheen as indicated.

E. Galvanized Metal:
   1. High Performance Coating, Water Based Acrylic
      a. PPG Paints: 1 coat DEVFLEX Direct-to-Metal 4020 primer
         1) Flat: 2 Coats DEVLFEX 4020 Primer/Finish.
         2) Eggshell: 2 coats DEVFLEX High Performance WB Acrylic 4212 topcoat.
         3) Semi-Gloss: 2 coats DEVFLEX High Performance WB Acrylic 4216 topcoat.
      b. Sherwin-Williams:
         1) Flat: 2 coats Sherwin-Williams Pro-Cryl Universal Primer B66-310 Series,
         2) Eg-Shel 2 coats Sherwin-Williams Pro Industrial Acrylic Eg-Shel B66-660 Series.
         3) Semi-Gloss 2 coats Sherwin-Williams Pro Industrial Acrylic Semi-Gloss B66-650 Series.
      c. Behr: 1 coat Behr Premium Plus Multi-Surface Primer & Sealer 436.
         1) Flat: 2 coats Premium Plus Ultra Interior Matte 1750 topcoat.
         2) Eggshell: 2 coats Premium Plus Ultra Eggshell 2750 topcoat.
         3) Semi-Gloss: 2 coats Direct To Metal Semi-Gloss 3200 topcoat.

F. Shop Primed Ferrous Metal:
   1. High Performance Coating, Water-Based Acrylic:
      a. PPG Paints: Eggshell: 2 topcoats DEVFLEX High Performance WB Acrylic Eggshell 4212 over prepared substrate. Test for adhesion.
      b. 2 topcoats Sherwin-Williams Pro Industrial Eg-Shel B66-660 Series.
      c. Behr: Eggshell: 1 coat Premium Plus Multi-Surface Primer & Sealer, 2 coats Premium Plus Ultra Eggshell 2750 topcoat.

G. Machinery, Equipment and Fixtures (Shop Primed):
   1. High Performance Coating, Water-Based Acrylic:

a. PPG Paints: 2 topcoats DEVFLEX High Performance WB Acrylic 4216 Semi-Gloss over prepared substrate.
b. Sherwin-Williams: 2 coats Pro Industrial Acrylic Semi-Gloss B66-650 Series
c. over prepared substrate.
d. Behr: 2 coats Behr Direct To Metal Semi-Gloss 3200 over prepared surface.

2. High Performance Coating, Alkyd Industrial Enamel:
   a. PPG Paints: 2 topcoats 7 Line Interior/Exterior Industrial Gloss Oil 7-282over prepared substrate.
   b. Sherwin-Williams: 2 coats Sherwin-Williams Industrial Enamel B54 Series
   c. over prepared substrate.

2.5 EXTERIOR PAINT SCHEDULE

A. CMU, Cinder Block, Split Face Block:
   1. 100 Percent Acrylic Latex:
      a. PPG Paints: 1 coat Speedhide Masonry Hi Fill Latex Block Filler 6-15
         1) Flat: 2 coats Speedhide Exterior 100% Acrylic Latex Flat 6-610XItopcoat.
         2) Satin: 2 coats Speedhide Exterior 100% Acrylic Latex Satin 6-2045XI topcoat.
         3) Semi-Gloss: 2 coats Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI topcoat.
         4) Gloss: 2 coats Speedhide Int/Ext 100% Acrylic Gloss 6-8534 topcoat.
      b. Sherwin-Williams: 1 coat PrepRite Block Filler B25W25
         1) Flat: 2 coats Sherwin-Williams A-100 Flat A6-100 Series topcoat.
         2) Satin: 2 coats of Sherwin- Williams A-100 Satin A82-100 Series topcoat.
      c. Behr: 1 coat Behr Pro Block Filler Primer 50
         1) Flat: 2 coats Behr Pro e600 Exterior Flat 610 topcoat.
         2) Satin: 2 coats Behr Pro e600 Exterior Satin 640 topcoat.
         3) Semi-Gloss: Behr Pro e600 Exterior Semi-Gloss 670 topcoat.
         4) Gloss: Behr Premium Plus Hi-Gloss Enamel 8050 topcoat.
   2. Elastomeric:
      a. PPG Paints: 1 coat Speedhide Masonry Hi Fill Latex Block Filler 6-15
         1) Smooth: 2 coats Perma-Crete Pitt-Flex Elastomeric Coating - Smooth 4-110/310 topcoat.
      b. Sherwin-Williams: 1 coat PrepRite Block Filler B25W25
         1) Smooth: 2 coats Sherwin-Williams ConFlex XL High Build Coating A5W451 topcoat.
         2) Fine: 2 coats of Sherwin- Williams ConFlex XL Textured Medium A5W810 topcoat.
         3) Extra Coarse: 2 coats of Sherwin-Williams ConFlex XL Textured Extra Coarse A5W820 topcoat.
      c. Behr: 1 coat Behr Pro Block Filler Primer 50
         1) Smooth: 2 coats Behr Exterior Elastomeric Masonry, Stucco and brick Paint 68 topcoat.

B. Wood Decks and Timber:
   1. Oil-Based:
      a. PPG Paints: Clear Matte: 2 topcoats Flood CWF OIL over prepared substrate.
      b. Sherwin-Williams: 2 coats SuperDeck Exterior Semi-Transparent Stain, 2100-2300 Series.
      c. PPG Paints: Clear Matte: 2 topcoats Flood CWF-UV 5 OIL over prepared substrate.
      d. Sherwin-Williams: 2 coats SuperDeck Exterior Semi-Transparent Stain, 2100-2300 Series.

C. Structural Iron and Ferrous Steel:
   1. High Performance Coating, Water-Based Acrylic:
      a. PPG Paints: Flat: 1 coat DEVFLEX Direct-to-Metal 4020 primer, 2 coats DEVFLEX Direct-to-Metal 4020 Primer/Finish topcoat.
      b. Sherwin-Williams: 2 coats Sherwin-Williams DTM Primer/Finish B66W1.
      c. PPG Paints: Eggshell: 1 coat DEVFLEX Direct-to-Metal 4020 primer, 2 coats DEVFLEX High Performance WB Acrylic Satin 4212 topcoat.
      d. Sherwin-Williams: 1 coat Pro-Cryl Universal Primer B66-310 Series, 2 coats Sherwin-Williams Pro Industrial Acrylic Eg-Shel B66-660 Series.
      e. PPG Paints: Semi-Gloss: 1 coat DEVFLEX Direct-to-Metal 4020 primer, 2 coats DEVFLEX High Performance WB Semi-Gloss Acrylic 4216 topcoat.
      f. Sherwin-Williams: 1 coat Pro-Cryl Universal Primer B66-310 Series, 2 coats Sherwin-Williams Pro Industrial Acrylic Semi-Gloss B66-650 Series.

g. Behr: Semi-Gloss: 1 coat Behr Premium Plus Multi-Surface Primer & Sealer 436, 2 coats Behr Direct To Metal Semi-Gloss 3200 topcoat.

D. Shop Primed Metal Doors, Trim, Panels and Miscellaneous Surfaces:
1. High Performance Coating, Urethane: (rust inhibitive, UV stable)
a. PPG Paints: Gloss: 1 coat Pitt-Guard Direct-To-Rust Epoxy Mastic Coatings 97-145, 2 coats Pitthane Ultra Gloss Urethane 95 Series.
b. Sherwin-Williams: 1 coat Macropoxy 646 Fast Cure Epoxy B58-600 Series, 2 coats Acrolon 218 HS Acrylic Polyurethane B65-650 topcoat.
c. Behr: 1 coat US Coatings EpoxyGrip 2000 Epoxy Mastic, 2 coats US Coatings UreGrip 3000 Aliphatic Acrylic Urethane Gloss topcoat.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Verify that surfaces and substrate conditions are ready to receive work as instructed by the product manufacturer.
B. Examine surfaces scheduled to be finished prior to commencement of work. Report to Architect any condition that may potentially affect proper application.
C. 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. Plaster and Gypsum Wallboard: 12 percent.
2. Interior Located Wood: 15 percent, measured in accordance with ASTM D2016.
3. Exterior Located Wood: 15 percent, measured in accordance with ASTM D2016.
D. Test shop applied primers for compatibility with subsequent cover materials.
E. Beginning of installation means acceptance of existing surfaces and substrate.

3.2 PREPARATION
A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
B. Correct minor defects and clean surfaces which affect work of this Section. Remove existing coatings which exhibit loose surface defects.
C. Shellac and seal marks which may bleed through surface finishes.
D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
E. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
F. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.
G. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
H. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
I. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by 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. Spot prime paint after repairs.
J. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
K. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
L. Interior Wood Items Schedule 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.
M. Exterior Wood Scheduled to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior caulking compound after sealer has been applied.
N. Shop Finished Items: Finish in accordance with AWI standards and guide lines.
O. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

3.3 PROTECTION
A. Protect elements surrounding the work of this Section from damage or disfiguration.
B. Repair damage to other surfaces caused by work of this Section.

C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
D. Remove empty paint containers from site.

3.4 APPLICATION
A. The intent of these Specifications is to produce the highest quality appearance of paint and finish surfaces. Employ skilled mechanics only. The proper preparation of all surfaces will be strictly enforced and wherever finished surfaces show any defects due to improper preparation, workmanship, etc., the defects shall be removed and the work refinished at the expense of the Contractor.
B. Apply products in accordance with manufacturer's instructions. Final finish coats shall have visual evidence of solid hiding and uniform appearance, and shall be free and smooth of brush marks, streaks, sags, runs, laps, or skipped areas.
C. Do not apply finishes to surfaces that are not dry.
D. Apply each coat to uniform finish and thickness.
E. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
F. Sand lightly between coats on wood and metal items to achieve required finish.
G. Allow applied coat to dry before next coat is applied.
H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
I. Prime back surfaces of interior and exterior woodwork scheduled to be painted with primer paint.
J. Prime back surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
K. Edges of paint adjoining other materials or colors shall be sharp and clean with no overlapping.

3.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT
A. Paint all shop primed equipment. Paint shop prefinished items where exposed to view in finished spaces. In mechanical rooms, repair shop pre-finished coatings which have been scratched or otherwise damaged with identical touch-up paint. Sand prior to touching up as required.
B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
C. Paint all grilles, registers, diffusers, and speaker grilles to match adjacent wall and ceiling surfaces, except that factory pre-finished items need not be painted if installed in a suspended acoustical ceiling system where the acoustical panels match the mechanical or electrical item color.
D. In all finished spaces, prime and paint exposed pipes, conduit, boxes, ducts, hangers, brackets, collars and supports. Paint to match adjacent surfaces.
E. Repair or replace identification markings on mechanical or electrical equipment when painted accidentally.
F. Paint interior surfaces of air ducts and convectors that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and convector to match face panels.
G. Paint all surfaces of plywood backboards for electrical and telephone equipment before installing equipment.
H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
I. Paint exposed air handlers, roof ventilators, goose necks, exhaust fans and other items on the roof with 2 coats exterior enamel. Prepare surfaces in accordance with the base metal or primer as specified herein.
J. Paint concrete support bases with gray floor deck enamel.
K. Pipe hangers and other supports need not be painted except where installed in crawl spaces, where they shall be painted with a thick coat of asphaltic paint.

3.6 CLEANING/TOUCH-UP
A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.
D. Spot painting will be allowed to correct soiled or damaged paint surfaces only when touch-up spot will blend into surrounding finish and is invisible to normal viewing (as determined by the Architect). Otherwise, re-coat entire section to corners or to a visible stopping point.

3.7 V.O.C. (VOLATILE ORGANIC COMPOUND) COMPLIANCE
A. Products listed in following schedule and/or substitutes proposed for use by Contractor must be formulated to meet all applicable ordinances and regulations regarding maximum V.O.C. content. Utilize products which have been specially formulated to meet such requirements.

END OF SECTION 099100

SECTION 101100

VISUAL DISPLAY UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Glass markerboard wall.

1.2 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).

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data on markerboard, tackboard, trim, and accessories.
- C. Shop Drawings: Indicate wall elevations, dimensions, joint locations , special anchor details.
- D. Samples: Submit color charts for selection of color and texture of markerboard, tackboard, and trim.
- E. Test Reports: Show compliance to specified surface burning characteristics requirements.
- F. Manufacturer's printed installation instructions.
- G. Maintenance Data: Include data on regular cleaning, stain removal.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.5 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year warranty for chalkboard and markerboard to include warranty against discoloration due to cleaning, crazing or cracking, and staining.

PART 2 PRODUCTS

2.1 VISUAL DISPLAY UNITS
- A. Glass Markerboard Wall: Room-size presentation surface made of multiple floor-to-celing glass panels.
  1. Manufacturers:
     - a. Clarus; Wall 2 Wall: www.clarus.com/#sle.
     - b. Substitutions: See Section 016000 - Product Requirements.
  2. Glass: Back-coated glass, tempered, low iron, 1/4 inch thick, with bevel edges and radiused corners. Coated or treated for use as dry-erase board or projection surface.
  3. Glass Finish: As selected from manufacturer's full range.
  4. Size: As indicated on drawings.
  5. Mounting: Concealed Z clips.

2.2 MATERIALS
- A. Float Glass: Provide float-glass-based glazing unless otherwise indicated.
  1. Fully Tempered Safety Glass: Comply with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.

2.3 ACCESSORIES
- A. Temporary Protective Cover: Sheet polyethylene, 8 mil thick.
- B. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that field measurements are as indicated.

B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

3.2 PREPARATION
A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION
A. Install boards in accordance with manufacturer's instructions.
B. Install with top of marker tray at 30 inches above finished floor.
C. Secure units level and plumb.
D. Butt Joints: Install with tight hairline joints.

3.4 CLEANING
A. Clean board surfaces in accordance with manufacturer's instructions.
B. Cover with protective cover, taped to frame.
C. Remove temporary protective cover without damaging visual display surfaces at Date of Substantial Completion.

END OF SECTION

SECTION 101400

SIGNAGE

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Code required signage.
- B. Building identification signs.

1.2 REFERENCE STANDARDS
- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- B. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
  1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
  2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
  3. Submit for approval by Owner through Architect prior to fabrication.
- D. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- F. Verification Samples: Submit samples showing colors specified.
- G. Manufacturer's Installation Instructions: Include installation templates and attachment devices.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  1. See Section 016000 - Product Requirements, for additional provisions.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Package signs as required to prevent damage before installation.
- B. Store tape adhesive at normal room temperature.

1.6 FIELD CONDITIONS
- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Flat Signs:
  1. Best Sign Systems, Inc: www.bestsigns.com/#sle.
  2. Inpro: www.inprocorp.com/#sle.
  3. Mohawk Sign Systems, Inc: www.mohawksign.com/#sle.
  4. Seton Identification Products: www.seton.com/aec/#sle.
  5. Substitutions: See Section 016000 - Product Requirements.
- B. Dimensional Letter Signs:

1. Cosco Industries: www.coscoarchitecturalsigns.com/#sle.
2. FASTSIGNS: www.fastsigns.com/#sle.
3. Inpro: www.inprocorp.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 SIGNAGE APPLICATIONS
A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
B. Provide interior signage only as required to comply with building code.
C. Building Identification Signs:
1. Use individual metal letters.
2. Mount on outside wall in location indicated on drawings.

2.3 SIGN TYPES
A. Flat Signs: Signage media without frame.
1. Edges: Square.
2. Corners: Radiused.
3. Wall Mounting of One-Sided Signs: Tape adhesive.
B. Color and Font: Unless otherwise indicated:
1. Character Font: As approved by Architect.
2. Character Case: Upper case only.
3. Background Color: As scheduled.
4. Character Color: Contrasting color.

2.4 DIMENSIONAL LETTERS
A. Metal Letters:
1. Metal: Cast aluminum or sheet steel.
2. Finish: Black prefinished..
3. Mounting: Projected 4-inch mounting from building facade.

2.5 ACCESSORIES
A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.
B. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify that substrate surfaces are ready to receive work.

3.2 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Install neatly, with horizontal edges level.
C. Locate signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.
D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

SECTION 102113.19

PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Solid plastic toilet compartments.
- B. Urinal screens.

1.2 REFERENCE STANDARDS
- A. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth 2024.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on panel construction, hardware, and accessories.
- C. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
- D. Manufacturer's Installation Instructions: Indicate special procedures.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Solid Plastic Toilet Compartments:
  1. Basis-of-Design: Scranton Products (Santana/Comtec/Capital); Hiny Hiders: www.scrantonproducts.com/#sle.
  2. Substitutions: Section 016000 - Product Requirements.

2.2 PLASTIC TOILET COMPARTMENTS
- A. Solid Plastic Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), tested in accordance with NFPA 286; floor-mounted headrail-braced.
  1. Color: Single color as selected.
- B. Doors:
  1. Thickness: 1 inch.
  2. Width: 24 inch.
  3. Width for Handicapped Use: 36 inch, out-swinging.
  4. Height: 55 inch.
- C. Panels:
  1. Thickness: 1 inch.
  2. Height: 55 inch.
- D. Pilasters:
  1. Thickness: 1 inch.
  2. Width: As required to fit space; minimum 3 inch.

2.3 ACCESSORIES
- A. Pilaster Shoes: Stainless steel, satin finish, 3 inches high; concealing floor fastenings.
  1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.
- B. Head Rails: Extruded aluminum, anti-grip profile.
- C. Wall and Pilaster Brackets: Stainless steel; continuous.
- D. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.
  1. For attaching panels and pilasters to brackets: Through-bolts and nuts ; tamper proof.
- E. Hinges: Stainless steel, manufacturer's standard finish.
  1. Continuous-type hinge, self closing.
- F. Door Hardware: Stainless steel, manufacturer's standard finish.

1. Door Latch: Slide type with exterior emergency access feature.
2. Door Strike and Keeper with Rubber Bumper: Mount on pilaster in alignment with door latch.
3. Provide door pull for outswinging doors.

G. Coat Hook: One per compartment, mounted on door.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that field measurements are as indicated.
- B. Verify correct spacing of and between plumbing fixtures.
- C. Verify correct location of built-in framing, anchorage, and bracing.

3.2 INSTALLATION
- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.
- C. Attach panel brackets securely to walls using anchor devices.
- D. Attach panels and pilasters to brackets.
- E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.3 TOLERANCES
- A. Maximum Variation From True Position: 1/4 inch.
- B. Maximum Variation From Plumb: 1/8 inch.

3.4 ADJUSTING
- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.
- C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 102241

OPERABLE GLASS PARTITIONS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Operable glass partitions, manually operated.

1.2 REFERENCE STANDARDS
- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2020.
- B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.
- C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.
- D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.
- E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.
- F. ASTM C1036 - Standard Specification for Flat Glass 2021.
- G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Preinstallation Meeting: Convene at project site seven calendar days prior to scheduled beginning of construction activities of this section to review section requirements.
  - 1. Require attendance by representatives of installer.
  - 2. Notify Architect four calendar days in advance of scheduled meeting date.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's descriptive literature for each component in partition assembly.
- C. Design Data: Design calculations, bearing seal and signature of structural engineer licensed to practice in the State in which the Project is located, showing loads at points of attachment to the building structure.
- D. Shop Drawings: Indicate layout, dimensions, identification of components, and interface with adjacent construction.
  - 1. Include field measurements of openings.
  - 2. Include elevations showing:
    - a. Locations and identification of manufacturer-supplied door hardware and fittings.
    - b. Locations and sizes of cut-outs and drilled holes for other door hardware.
  - 3. Include details of:
    - a. Requirements for support and bracing of overhead track.
    - b. Installation details.
    - c. Appearance of manufacturer-supplied door hardware and fittings.
- E. Selection Samples: Two sets, representing manufacturer's full range of available metal materials and finishes.
- F. Verification Samples: Two samples, minimum size 2 by 3 inches, representing actual material and finish of exposed metal.
- G. Certificates: Contractor to certify that installer of partition assemblies meets specified qualifications.
- H. Operation and Maintenance Data: For manufacturer-supplied operating hardware.
- I. Manufacturer's Installation Instructions: Include complete preparation, installation, and cleaning requirements.

1.5 QUALITY ASSURANCE
- A. Fabricator Qualifications: Minimum three years of experience designing, assembling, and installing partition assemblies similar to those specified in this section.

1.6 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened packaging until installation.

1.7 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty against excessive degradation of metal finishes. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Operable Glass Partitions:
  1. NanaWall Systems, Inc; NW Acoustical 645 Aluminum Framed Folding Panel System: www.nanawall.com/#sle.
  2. Substitutions: See Section 016000 - Product Requirements.

2.2 OPERABLE GLASS PARTITIONS
- A. Operable Glass Partitions - Framed: Top hung, factory fabricated assemblies consisting of double-glazed framed glass panels in configuration indicated on drawings.
  1. Frame Finish: Clear anodized.
  2. Tempered Glass Thickness: 1/4 inch.
  3. Maximum Support Capacity: Manufacturers standard load with two carriers on each panel.
  4. Glass: Clear.
  5. Panel hardware finish to match frame.
  6. Designed to withstand normal operation without damage, racking, sagging, or deflection.
  7. Prepared for all specified hardware whether specified in this section or not.
  8. Finished metal surfaces protected with strippable film.
  9. Factory assembled to greatest extent practicable; may be disassembled to accommodate shipping constraints.
- B. Overhead Track: Extruded aluminum box track, factory fabricated; corner, intersection, and hanger access fittings to suit partition movement and stacking indicated; track joints reinforced with stainless steel junction plates.
  1. Overhead Track Cladding Color/Finish: As selected by Architect.
  2. Track Suspension System: Provide brackets, hanger rods, and hardware for attachment to structure, with at least 6 inch vertical adjustment range and capable of adjustments without removing panels from tracks.
- C. Track Hangers: 4-wheeled, ball-bearing, stainless steel rollers on vertical axles; two per panel; providing smooth movement and directional control, and preventing accidental panel rotation.
- D. Operable Panel Hardware:
  1. Lever handle with profile cylinder, manufacturer's standard.
  2. Push/pull handles on both sides.
- E. Acoustic Seals: Provide acoustic seals in accordance with project requirements.

2.3 MATERIALS
- A. Glass: Tempered float glass meeting requirements of ASTM C1036, Type I, Quality Q3, fully tempered in accordance with ASTM C1048, Kind FT, and as follows:
  1. Prepare glazing panels for indicated fittings and hardware before tempering.
  2. Provide exposed glazing edges with flat polished/ground glass finish.
  3. Temper glass materials horizontally; visible tong marks or tong mark distortions are not permitted.
- B. Aluminum Components: Complying with ASTM B221 (ASTM B221M), alloy 6063, temper as indicated, with anodized finish complying with AAMA 611, and powder coating complying with AAMA 2603 or AAMA 2604 for select colors.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that field measurements are as indicated.
- B. Verify track supports are laterally braced and will permit track to be level within 1/4 inch of required position and parallel to the floor surface.
- C. Verify floor flatness of 1/8 inch in 10 feet, non-cumulative.

D. Do not begin installation until supports and adjacent substrates have been properly prepared.
E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
A. Clean substrates thoroughly prior to installation.
B. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION
A. Install in accordance with track and fitting manufacturer's instructions.
B. Fit and align partition assembly and pocket doors level and plumb.

3.4 ADJUSTING
A. Adjust partition to operate smoothly from stacked to fully extended position.
B. Adjust swing door hardware for smooth operation.

3.5 CLEANING
A. Thoroughly clean surfaces and materials installed as part of this work.

3.6 CLOSEOUT ACTIVITIES
A. See Section 017800 - Closeout Submittals, for closeout submittals.
B. Demonstrate operation of partition and identify potential operational problems.

3.7 PROTECTION
A. Protect installed products and materials until Date of Substantial Completion.
B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 102800

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Commercial toilet accessories.
- B. Under-lavatory pipe supply covers.
- C. Diaper changing stations.
- D. Utility room accessories.

1.2 REFERENCE STANDARDS
- A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2022.
- C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- D. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium 2017 (Reapproved 2022).
- E. ASTM C1822 - Standard Specification for Insulating Covers on Accessible Lavatory Piping 2021.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.
- G. ASTM F2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use 2022.
- H. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi 2015, with Editorial Revision (2021).

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Commercial Toilet, Shower, and Bath Accessories:
  1. American Specialties, Inc: www.americanspecialties.com/#sle.
  2. Bobrick Washroom Equipment: www.bobrick.com.
  3. Substitutions: Section 016000 - Product Requirements.
- B. Under-Lavatory Pipe Supply Covers:
  1. Plumberex Specialty Products, Inc: www.plumberex.com/#sle.
  2. Substitutions: Section 016000 - Product Requirements.

2.2 MATERIALS
- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
  1. Grind welded joints smooth.
  2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.
- B. Keys: Provide two keys for each accessory to Owner; master key lockable accessories.
- C. Stainless Steel Sheet: ASTM A666, Type 304.
- D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- E. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.3 FINISHES
- A. Stainless Steel: Satin finish, unless otherwise noted.
- B. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.
- C. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.

2.4 COMMERCIAL TOILET ACCESSORIES
- A. As scheduled.

2.5 UNDER-LAVATORY PIPE AND SUPPLY COVERS
- A. Under-Lavatory Pipe and Supply Covers:
  - 1. Insulate exposed drainage piping including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
  - 2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
  - 3. Construction: 1/8 inch flexible PVC.
    - a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
    - b. Comply with ASTM C1822, type indicated.
    - c. Microbial and Fungal Resistance: Comply with ASTM G21.
  - 4. Color: White.
  - 5. Fasteners: Reusable, snap-locking fasteners with no sharp or abrasive external surfaces.

2.6 DIAPER CHANGING STATIONS
- A. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding ASTM F2285.
  - 1. Material: Stainless steel.
  - 2. Mounting: Surface.
  - 3. Color: As selected.
  - 4. Minimum Rated Load: 50 pounds.
  - 5. Products:
    - a. As scheduled.
    - b. Substitutions: 016000 - Product Requirements.

2.7 UTILITY ROOM ACCESSORIES
- A. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
  - 1. Hooks: Three, 0.06 inch stainless steel rag hooks at shelf front.
  - 2. Mop/broom holders: Four spring-loaded rubber cam holders at shelf front.
  - 3. Length: Manufacturer's standard length for number of holders/hooks.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.
- D. See Section 061000 for installation of blocking, reinforcing plates, and concealed anchors in walls and ceilings.

3.2 PREPARATION
- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION
- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.4 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

SECTION 103100

MANUFACTURED FIREPLACES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Electric fireplaces.

1.2 DEFINITIONS

1.3 REFERENCE STANDARDS
- A. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- B. UL 2021 - Fixed and Location Dedicated Electric Room Heaters Current Edition, Including All Revisions.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide firebox cabinet dimensions, clearances required from adjacent dissimilar construction, applicable regulatory agency approvals, and electrical characteristics of fan.
- C. Shop Drawings: Indicate layout, elevations, sections, firebox rough opening dimensions, required clearances, utility service requirements, and attachments to other work.
- D. Manufacturer's qualification statement.
- E. Executed warranty.

1.5 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.

1.6 WARRANTY
- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide 2-year manufacturer warranty for materials and workmanship. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 ELECTRIC FIREPLACES
- A. Manufacturers:
  1. Dimplex; Revillusion RBF36PWC-FG: www.dimplex.glendimplexamericas.com/#sle.
  2. Substitutions: See Section 016000 - Product Requirements.
- B. Description:
  1. Location: Indoor.
  2. Fireplace Style: Traditional.
  3. Power Connection: Plug-in.
  4. Btu Rating: 4,436.
  5. Built-in fireboxes.
- C. Design Criteria:
  1. Comply with UL 2021 for electric room heating equipment.

2.2 COMPONENTS
- A. Firebox: Formed insulated steel cabinet with rectangular-shaped interior, configured to include chimney outlet and cleanout and refractory brick lining.

2.3 ACCESSORIES
- A. Fasteners and Anchors: Galvanized steel.

PART 3 EXECUTION

3.1 VERIFICATION OF CONDITIONS
- A. Verify prepared openings are ready to receive work and opening dimensions are as indicated on drawings.
- B. Verify proper power supply and fuel source are available.

3.2 INSTALLATION
- A. Comply with applicable code for clearances from adjacent materials and unit UL approval.
- B. Perform electrical work in accordance with NFPA 70.
- C. Install unit assembly in accordance with manufacturer's instructions.
- D. Carefully cut holes for fan wall switch and grilles.

END OF SECTION

SECTION 104400

FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Fire extinguishers.
- B. Fire extinguisher cabinets.
- C. Accessories.

1.2 REFERENCE STANDARDS
- A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems 2023a.
- B. NFPA 10 - Standard for Portable Fire Extinguishers 2022.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide extinguisher operational features.
- C. Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.
- D. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- F. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.4 FIELD CONDITIONS
- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Fire Extinguishers:
  1. Ansul, a Tyco Business: www.ansul.com/#sle.
  2. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
  3. Nystrom, Inc: www.nystrom.com/#sle.
  4. Oval Brand Fire Products: www.ovalfireproducts.com/#sle.
  5. Pyro-Chem, a Tyco Business: www.pyrochem.com/#sle.
  6. Substitutions: See Section 016000 - Product Requirements.
- B. Fire Extinguisher Cabinets and Accessories:
  1. Activar Construction Products Group - JL Industries: www.activarcpg.com/#sle.
  2. Ansul, a Tyco Business: www.ansul.com/#sle.
  3. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
  4. Larsen's Manufacturing Co: www.larsensmfg.com/#sle.
  5. Nystrom, Inc: www.nystrom.com/#sle.
  6. Oval Brand Fire Products: www.ovalfireproducts.com/#sle.
  7. Potter-Roemer: www.potterroemer.com/#sle.
  8. Pyro-Chem, a Tyco Business: www.pyrochem.com/#sle.
  9. Substitutions: See Section 016000 - Product Requirements.

2.2 FIRE EXTINGUISHERS
- A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
- B. Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
  1. Class: A:B:C type.
  2. Size: 5 pound.
  3. Finish: Baked polyester powder coat, red color.
  4. Temperature range: Minus 40 degrees F to 120 degrees F.

2.3 FIRE EXTINGUISHER CABINETS
- A. Fire Rating: Listed and labeled in accordance with ASTM E814 requirements for fire resistance rating of walls where being installed.
- B. Cabinet Construction: Non-fire rated.
  - 1. Formed primed steel sheet; 0.036 inch thick base metal.
- C. Fire Rated Cabinet Construction: Not less than that of adjacent construction.
  - 1. Steel; double wall or outer and inner boxes with 5/8 inch thick fire barrier material.
- D. Cabinet Configuration: Recessed type.
  - 1. Size to accommodate accessories.
  - 2. Projected Trim: Returned to wall surface, not to project more than 4 inches from face of wall.
  - 3. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim.
- E. Door: Aluminum sheet, 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinge.
- F. Door Glazing: Float glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.
- G. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
- H. Weld, fill, and grind components smooth.
- I. Finish of Cabinet Exterior Trim and Door: Anodized to color as selected.
- J. Finish of Cabinet Interior: White colored enamel.

2.4 ACCESSORIES
- A. Extinguisher Brackets: Formed steel, galvanized and enamel finished.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify existing conditions before starting work.
- B. Verify rough openings for cabinet are correctly sized and located.

3.2 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. Install cabinets plumb and level in wall openings, not more than 48 inches from finished floor to inside bottom of cabinet.
- C. Secure rigidly in place.
- D. Place extinguishers in cabinets.

END OF SECTION

SECTION 109900

MISCELLANEOUS SPECIALTIES

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. Miscellaneous specialty items as listed herein.

1.3 ACTION SUBMITTALS
- A. Product Data: Including all pertinent performance characteristics and criteria.
- B. Shop Drawings: Indicate materials, construction, sizes, quantities, finishes, and installation details.

1.4 INFORMATIONAL SUBMITTALS
- A. Manufacturer's Instructions: For installation, maintenance, and repair.

PART 2 PRODUCTS

2.1 PRODUCTS
- A. Fire Control Key Box: Provide fire department key control box complete with alarm tamper switch at location near main entrance to be determined.
  - 1. Acceptable Product: Model 3200 by Knox Box.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. Verify that surfaces and conditions are ready to receive work of this Section.
- B. Notify Architect of any existing conditions which will adversely affect execution.
- C. Beginning of execution will constitute acceptance of existing conditions.

3.2 PREPARATION
- A. Prepare substrate surfaces as recommended by manufacturer.

3.3 INSTALLATION
- A. Install using skilled workers in accordance with manufacturer's published instructions and recommendations.

3.4 ADJUSTING
- A. Adjust and fit items to be flush with adjacent construction.
- B. Fasten or adhere for tight connections and joints.

END OF SECTION

SECTION 113013

RESIDENTIAL APPLIANCES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Kitchen appliances.

1.2 REFERENCE STANDARDS
- A. UL (DIR) - Online Certifications Directory Current Edition.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data indicating dimensions, capacity, and operating features of each piece of residential equipment specified.
- C. Copies of Warranties: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- B. Electric Appliances: Listed and labeled by UL (DIR) and complying with NEMA Standards (National Electrical Manufacturers Association).

1.5 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five (5) year manufacturer warranty on refrigeration system of refrigerators.
- C. Provide ten (10) year manufacturer warranty on magnetron tube of microwave ovens.

PART 2 PRODUCTS

2.1 KITCHEN APPLIANCES
- A. Provide Equipment Eligible for Energy Star Rating: Energy Star Rated.
- B. Appliances: As scheduled or as selected by Owner.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify utility rough-ins are provided and correctly located.

3.2 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. Anchor built-in equipment in place.

3.3 ADJUSTING
- A. Adjust equipment to provide efficient operation.

3.4 CLEANING
- A. Remove packing materials from equipment and properly discard.
- B. Wash and clean equipment.

END OF SECTION

SECTION 114000

FOOD SERVICE EQUIPMENT

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. This Section includes equipment for foodservice facilities indicated on the Drawings.
- B. Owner-Furnished Equipment: Where indicated, Owner will furnish equipment items.

1.3 SUBMITTALS
- A. Product Data: For each type of product indicated. Include the following:
  1. Manufacturer's model number.
  2. Options, accessories, and components that will be included for Project.
  3. Clearance requirements for access and maintenance.
  4. Utility service connections for water, drainage, power, and fuel; include roughing-in dimensions.
- B. Shop Drawings: For fabricated equipment. Include plans, elevations, sections, roughing-in dimensions, fabrication details, utility service requirements, and attachments to other work.
- C. Coordination Drawings: For foodservice facilities.
  1. Indicate locations of food service equipment and connections to utilities.
  2. Key equipment using same designations as indicated on Drawings.
  3. Include plans and elevations; clearance requirements for equipment access and maintenance; details of support for equipment; and utility service characteristics.
  4. Include details of seismic bracing for equipment.
- D. Samples for Initial Selection: For units with factory-applied color finishes.
- E. Samples for Verification: For each factory-applied color finish required, in manufacturer's standard sizes.
- F. Operation and Maintenance Data: For foodservice equipment to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Closeout Procedures and Operation and Maintenance Data," include the following:
  1. Product Schedule: For each foodservice equipment item, include the following:
     - a. Designation indicated on Drawings.
     - b. Manufacturer's name and model number.
     - c. List of factory-authorized service agencies including their addresses and telephone numbers.
- G. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE
- A. NSF Standards: Provide equipment that bears NSF Certification Mark or UL Classification Mark certifying compliance with applicable NSF/ANSI standards.
- B. UL Certification: Provide electric and fuel-burning equipment and components that are evaluated by UL for fire, electric shock, and casualty hazards according to applicable safety standards and that are UL certified for compliance and labeled for intended use.
- C. Regulatory Requirements: Install equipment to comply with the following:
  1. ASHRAE 15, "Safety Code for Mechanical Refrigeration."
  2. NFPA 54, "National Fuel Gas Code."
  3. NFPA 70, "National Electrical Code."
  4. NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations."
- D. Seismic Restraints: Comply with SMACNA's "Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines," Appendix A, "Seismic Restraint Details," unless otherwise indicated.
- E. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.5 PROJECT CONDITIONS
- A. Field Measurements: Indicate measurements on Coordination Drawings.

1.6 COORDINATION
- A. Coordinate foodservice equipment layout and installation with other work, including lighting fixtures, HVAC equipment, and fire-suppression system components.
- B. Coordinate location and requirements of utility service connections.
- C. Coordinate size, location, and requirements of the following:
  1. Overhead equipment supports.
  2. Equipment bases.
  3. Floor depressions.
  4. Insulated floors.
  5. Floor areas with positive slopes to drains.
  6. Floor sinks and drains serving foodservice equipment.
  7. Roof curbs, equipment supports, and penetrations.

1.7 WARRANTY
- A. Refrigeration Compressor Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace compressors that fail in materials or workmanship within specified warranty period.
  1. Failure includes, but is not limited to, inability to maintain set temperature.
  2. Warranty Period: Minimum One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
  2. Products: Subject to compliance with requirements, provide one of the products specified.
  3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
  4. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
  5. Basis-of-Design Product: The design for foodservice equipment item is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 FABRICATED EQUIPMENT
- A. Materials:
  1. Stainless Steel: ASTM A 666, with No. 4 finish (directional satin finish) on exposed surfaces.
  2. Galvanized Steel: ASTM A 653/A 653M, G90 (Z275) coating designation; commercial- quality, cold-rolled steel that is zinc coated by the hot-dip process and chemically treated.

2.3 MISCELLANEOUS MATERIALS
- A. Installation Accessories, General: NSF certified for end-use application indicated.
- B. Elastomeric Joint Sealant: ASTM C 920; Type S (single component), Grade NS (non-sag), Class 25, Use NT (non-traffic) related to exposure, and Use M, G, A, or O as applicable to joint substrates indicated.
  1. Public Health and Safety Requirements:
     - a. Sealant is certified for compliance with NSF standards for end-use application indicated.
     - b. Washed and cured sealant complies with the FDA's regulations for use in areas that come in contact with food.
  2. Cylindrical Sealant Backing: ASTM C 1330, Type C, closed-cell polyethylene, in diameter larger than joint width.

PART 3 - EXECUTION

3.1 INSTALLATION
- A. Install foodservice equipment level and plumb, according to manufacturer's written instructions.
  1. Connect equipment to utilities.

2. Provide cutouts in equipment, neatly formed, where required to run service lines through equipment to make final connections.

B. Complete equipment assembly where field assembly is required.
1. Provide closed butt and contact joints that do not require a filler.
2. Grind field welds on stainless-steel equipment smooth, and polish to match adjacent finish.

C. Install equipment with access and maintenance clearances that comply with manufacturer's written installation instructions and requirements of authorities having jurisdiction.

D. Install cabinets and similar equipment on concrete or masonry bases in a bed of sealant.

E. Install closure-trim strips and similar items requiring fasteners in a bed of sealant.

F. Install joint sealant in joints between equipment and abutting surfaces with continuous joint backing, unless otherwise indicated. Produce airtight, watertight, vermin-proof, sanitary joints.

3.2 CLEANING AND PROTECTING

A. After completing installation of equipment, repair damaged finishes.

B. Clean and adjust equipment as required to produce ready-for-use condition.

C. Protect equipment from damage during remainder of the construction period.

3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain foodservice equipment. Refer to Division 01 Section "Closeout Procedures."

END OF SECTION

SECTION 122400

WINDOW SHADES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Interior manual roller shades.

1.2 REFERENCE STANDARDS
- A. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi 2015, with Editorial Revision (2021).
- B. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 2023, with Errata.
- C. WCMA A100.1 - Standard for Safety of Window Covering Products 2022.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Preinstallation Meeting: Convene one week prior to commencing work related to products of this section; require attendance of affected installers.
- B. Sequencing:
  - 1. Do not fabricate shades until field dimensions for each opening have been taken with field conditions in place.
  - 2. Do not install shades until final surface finishes and painting are complete.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.
- C. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.
- D. Certificates: Manufacturer's documentation that line voltage components are UL listed or UL recognized.
- E. Source Quality Control Submittals: Provide test reports indicating compliance with specified fabric properties.
- F. Selection Samples: Include fabric samples in full range of available colors and patterns.
- G. Verification Samples: Minimum size 6 inches square, representing actual materials, color and pattern.
- H. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- I. Operation and Maintenance Data: List of all components with part numbers, sources of supply, and operation and maintenance instructions; include copy of shop drawings.
- J. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of this type with minimum three years of documented experience with shading systems of similar size and type.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.6 MOCK-UP
- A. Mock-Up: Provide full size mock-up of window shade system complete with selected shade fabric including example of seams and batten pockets when applicable.
  - 1. Obtain Architect's approval of light and privacy characteristics of fabric prior to fabrication.
  - 2. Full-sized mock-up may become part of the final installation.

1.7 DELIVERY, STORAGE, AND HANDLING
- A. Deliver shades in manufacturer's unopened packaging, labeled to identify each shade for each opening.
- B. Handle and store shades in accordance with manufacturer's recommendations.

1.8 FIELD CONDITIONS
A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY
A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
B. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
1. Shade Hardware: One year.
2. Fabric: One year.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Interior Manually Operated Roller Shades:
1. Draper, Inc: www.draperinc.com/#sle.
2. Hunter Douglas Architectural: www.hunterdouglasarchitectural.com/#sle.
3. Levolor: www.commercial.levolor.com/#sle.
4. MechoShade Systems LLC: www.mechoshade.com/#sle.
5. TimberBlindMetroShade: www.timberblinds.com/commercial-division/#sle.
6. SWFcontract, a division of Springs Window Fashions, LLC.; Pro Series Manual Solar Shade System: www.swfcontract.com/#sle.
7. Substitutions: See Section 016000 - Product Requirements.

2.2 ROLLER SHADES
A. General:
1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
2. Provide shade system that operates smoothly when shades are raised or lowered.
B. Roller Shades:
1. Description - Interior Roller Shades: Single roller, manually operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
a. Drop Position: Regular roll.
b. Roll Direction: Roll down, closed position is at window sill.
c. Mounting: Window jamb mounted - inside, between jambs.
d. Size: As indicated on drawings.
e. Fabric: As indicated under Shade Fabric article.
2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
a. Material: Stamped steel.
3. Roller Tubes: As required for type of shade operation.
a. Material: Extruded aluminum, clear anodized finish.
b. Size: As recommended by manufacturer; selected for suitability for installation conditions, span, and weight of shades.
c. Fabric Attachment: Utilize extruded channel in tube to accept vinyl spline welded to fabric edge.
4. Hembars: Designed to maintain bottom of shade straight and flat.
a. Style: Exposed aluminum bottom bar, flat profile with closed ends; baked enamel finish, color to match shade fabric.
5. Manual Operation for Interior Shades:
a. Clutch Operator: Manufacturer's standard material and design, permanently lubricated.
b. Drive Chain: Continuous loop beaded ball chain, 95 lb minimum breaking strength. Provide upper and lower limit stops.
c. Chain Retainer:
1) Chain tensioning device complying with WCMA A100.1.
2) Manufacturer's standard clip.

2.3 SHADE FABRIC
- A. Fabric: Nonflammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
  - 1. Material: Vinyl coated polyester.
  - 2. Performance Requirements:
    - a. Flammability: Pass NFPA 701 large and small tests.
    - b. Fungal Resistance: No growth when tested according to ASTM G21.
  - 3. Color and Openness Factor: As scheduled.
  - 4. Basis-of-Design Product: As scheduled.
  - 5. Fabrication:
    - a. Fabric Orientation: Railroaded, fabric is turned 90 degrees off the roll.

2.4 ROLLER SHADE FABRICATION
- A. Field measure finished openings prior to ordering or fabrication.
- B. Dimensional Tolerances: Fabricate shades to fit openings within specified tolerances.
  - 1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch space between bottom bar and window stool.
  - 2. Horizontal Dimensions - Inside Mounting: Fill openings from jamb to jamb.
- C. Dimensional Tolerances: As recommended in writing by manufacturer.
- D. At openings requiring continuous multiple shade units with separate rollers, locate roller joints at window mullion centers; butt rollers end-to-end.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Examine finished openings for deficiencies that may preclude satisfactory installation.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Start of installation shall be considered acceptance of substrates.

3.2 PREPARATION
- A. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under the project conditions.
- B. Coordinate with window installation and placement of concealed blocking to support shades.

3.3 INSTALLATION
- A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.
- B. Replace shades that exceed specified dimensional tolerances at no extra cost to Owner.
- C. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

3.4 CLEANING
- A. Clean soiled shades and exposed components as recommended by manufacturer.
- B. Replace shades that cannot be cleaned to "like new" condition.

3.5 CLOSEOUT ACTIVITIES
- A. See Section 017800 - Closeout Submittals, for closeout submittals.
- B. See Section 017900 - Demonstration and Training, for additional requirements.
- C. Demonstration: Demonstrate operation and maintenance of window shade system to Owner's personnel.

3.6 PROTECTION
- A. Protect installed products from subsequent construction operations.
- B. Touch-up, repair, or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 123600

COUNTERTOPS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Countertops for architectural cabinet work.
- B. Sinks molded into countertops.

1.2 REFERENCE STANDARDS
- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.
- B. AWI (QCP) - Quality Certification Program Current Edition.
- C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).
- D. IAPMO Z124 - Plastic Plumbing Fixtures 2022, with Editorial Revision.
- E. ISFA 2-01 - Classification and Standards for Solid Surfacing Material 2013.
- F. ISFA 3-01 - Classification and Standards for Quartz Surfacing Material 2013.
- G. MIA (DSDM) - Dimensional Stone Design Manual, Version VIII 2016.
- H. NEMA LD 3 - High-Pressure Decorative Laminates 2005.
- I. PS 1 - Structural Plywood 2019.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- 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. Specimen warranty.
- C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.
- D. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.
- E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.
- F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

1.4 QUALITY ASSURANCE
- A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.
- B. Quality Certification:
  1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.
  2. Provide labels or certificates indicating that the installed work complies with AWI/AWMAC/WI (AWS) requirements for grade or grades specified.
  3. Provide designated labels on shop drawings as required by certification program.
  4. Provide designated labels on installed products as required by certification program.
  5. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.6 FIELD 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 absolute limits.

PART 2 PRODUCTS

2.1 COUNTERTOPS
- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
  - 1. Flat Sheet Thickness: 1/2 inch, minimum.
  - 2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
    - a. Manufacturers:
      - 1) As scheduled.
      - 2) Substitutions: See Section 016000 - Product Requirements.
    - b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
    - c. Sinks and Bowls: Integral castings; minimum 3/4 inch wall thickness; comply with IAPMO Z124.
    - d. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
    - e. Color and Pattern: As scheduled.
    - f. Other Components Thickness: 1/2 inch, minimum.
    - g. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; radiused edge; use marine edge at sinks.
    - h. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
    - i. Fabricate in accordance with manufacturer's standard requirements.

2.2 MATERIALS
- A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.
- B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- C. Joint Sealant: Mildew-resistant silicone sealant, color as selected by Architect..

2.3 FABRICATION
- A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
  - 1. Join lengths of tops using best method recommended by manufacturer.
  - 2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
    - a. Rout a 1/8 inch drip groove at underside of exposed overlapping edges, set back 1/2 inch from face of edge.
  - 3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
- B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
  - 1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
  - 2. Height: 4 inches, unless otherwise indicated.
- C. Solid Surfacing: Fabricate tops and wall panels up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.
  - 1. Integral sinks: Shop-mount securely to countertop with adhesives, using flush configuration, as per manufacturer's instructions, and as detailed on drawings.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.2 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.

3.3 INSTALLATION
- A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
- B. Seal joint between back/end splashes and vertical surfaces.

3.4 TOLERANCES
- A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
- B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
- C. Field Joints: 1/8 inch wide, maximum.

3.5 CLEANING
- A. Clean countertops surfaces thoroughly.

3.6 PROTECTION
- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 141200

ELECTRIC DUMBWAITERS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Dumbwaiters.
- B. Landing and cab doors and frames , including installation within masonry hoistway enclosure walls.
- C. Machines, controllers, cars, operating devices.
- D. Dumbwaiter maintenance.

1.2 REFERENCE STANDARDS
- A. ASME A17.1 - Safety Code for Elevators and Escalators Includes Requirements for Elevators, Escalators, Dumbwaiters, Moving Walks, Material Lifts, and Dumbwaiters with Automatic Transfer Devices 2022.
- B. ASME A17.2 - Guide for Inspection of Elevators, Escalators, and Moving Walks Includes Inspection Procedures for Electric Traction and Winding Drum Elevators, Hydraulic Elevators, Inclined Elevators, Limited-Use/Limited-Application Elevators, Private Residence Elevators, Escalators, Moving Walks, and Dumbwaiters 2020.
- 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 A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2023).
- G. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2022.
- I. UL (DIR) - Online Certifications Directory Current Edition.

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Coordinate construction of hoistway, pit, and machine room, and electrical service.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on following items:
  1. Signal and operating fixtures, operating panels, indicators.
  2. Cab design, dimensions, layout, and components.
  3. Cab and hoistway door and frame details.
  4. Electrical characteristics and connection requirements.
- C. Shop Drawings: Submit the following information:
  1. Driving machine, controller, selector, governor and other component locations.
  2. Loads on sheave beams and location of trolley beams.
  3. Clearances and over travel of car and counterweight.
  4. Locations in hoistway and machine room of traveling cables.
  5. Location and sizes of access doors, doors, and frames.
  6. Expected heat dissipation of equipment in machine room.
  7. Electrical characteristics and connection requirements.
  8. Show arrangement of equipment in machine room so rotating elements, sheaves, and other equipment can be removed for repairs or replaced without disturbing other components. Arrange equipment for clear passage through access door.
- D. Designer's Qualification Statement.
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.
- G. Maintenance Contract.
- H. Project Record Documents: Accurately record actual locations of concealed items, conduit, and locations of components.
- I. Maintenance Data:

1. Include a parts catalog with complete list of equipment replacement parts; identify each entry with equipment description and identifying code.
2. Provide technical information for servicing operating equipment.
3. Include legible schematic wiring diagrams of installed electrical equipment, and changes made in the Work. List symbols corresponding to identity or markings on machine room and hoistway apparatus.
4. Provide one copy of master schematic and one copy of lubrication chart, framed, with clear plastic; mount on machine room wall.

1.5 QUALITY ASSURANCE
A. Designer Qualifications: Design guide rails under direct supervision of a licensed Professional Structural Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
B. Perform Work in accordance with applicable code and as supplemented in this section.
C. Perform welding of steel in accordance with AWS D1.1/D1.1M.
D. Fabricate and install door and frame assemblies in accordance with NFPA 80.
E. Perform electrical work in accordance with NFPA 70.
F. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
G. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.
H. Products Requiring Fire Resistance Rating: Listed and classified by UL (DIR).
I. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.

1.6 WARRANTY
A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
B. Correct defective Work within a five year period after Date of Substantial Completion.
C. Provide five year manufacturer warranty for materials and workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Electric Dumbwaiters:
1. Elevation Innovation, Inc.
2. Substitutions: See Section 016000 - Product Requirements.

2.2 DESCRIPTION
A. Electric Dumbwaiters:
1. Rated Net Capacity: 500 lbs.
2. Rated Speed: 50 ft/min.
3. Travel Distance (nominal): As indicated feet.
4. Number of Stops: Two.
5. Number of Openings: Front - 2 , .
6. Nominal Platform Size: 36 by 36 inch.
7. Door Operation: Manual.

2.3 CONTROLS
A. Provide automatic operation with full bank of operating buttons at each landing numbered to correspond to landings served.
1. Call or dispatch car to various landings by momentary pressure of respective buttons when landing doors are closed.
2. Indicate arrival of car at landings by light and audible bell at landing.
3. Deactivate buttons while car is in motion, and for short period of time upon arrival at landing to allow time to open door.
4. Provide two additional buttons marked IU (Inching Up) and ID (Inching Down) at each entrance, to level car to align with landing by applying constant pressure on button while both car door and hoistway door are open, and that car is within this inching zone.
B. Call and Send Operation:

1. Initiate Call with momentary pressure on button at each landing labeled "Car Call" to bring car to that landing.
2. Dispatch car to desired landing by momentary pressure on button provided car and landing doors are closed.
3. Include a bank of buttons labeled to designate all landings served at each operating station.

2.4 LANDING CONTROLS
A. Landing Buttons: Stainless steel type.

2.5 MATERIALS
A. Rolled Steel Sections, Shapes, and Rods: ASTM A36/A36M.
B. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, Designation SS (structural steel), Grade 33 (230), with G90/Z275 coating.
C. Stainless Steel Sheet: ASTM A666, Type 304, No. 4 finish.
D. Shop and Touch-Up Primer: Red oxide.
E. Touch-Up Primer for Galvanized Surfaces: Zinc rich type.

2.6 EQUIPMENT
A. Motors, Controller, Controls, Buttons, Wiring and Devices, Indicators: As required by NFPA 70.
B. Lubrication of Equipment: Provide grease fittings for lubricating bearings requiring periodic lubrication, automatic feed type grease cups, and visible and easily accessible lubrication points.
C. Guide Rails, Ropes, Counterweights, Sheaves, Attachment Brackets and Anchors: Purpose designed, sized according to code with safety factors.

2.7 ELECTRICAL CHARACTERISTICS AND COMPONENTS
A. Electrical Characteristics:
1. 208-230 volts, single phase, 60 Hz.
B. Disconnect Switch: Factory mount disconnect switch in control panel.
C. Boxes, Conduit, Wiring, and Devices: As required by NFPA 70.

2.8 CAR AND CAB
A. Car Frame: Rigid rolled steel sections, braced.
B. Car Enclosure: Sheet steel panels attached to steel frame.
C. Walls and Ceiling:
1. Stainless steel, 16 gauge, 0.0625 inch, minimum metal thickness.
D. Flooring:
1. Stainless steel, 16 gauge, 0.0625 inch, minimum metal thickness.
E. Cab Doors: Flush design, rigid construction.
1. Stainless steel, 16 gauge, 0.0625 inch minimum metal thickness.
F. Cab Door Frames: Welded corner design, smooth joints.
1. Stainless steel, 16 gauge, 0.0625 inch minimum metal thickness.

2.9 LANDING ENTRANCES
A. Landing Doors: Flush design, rigid construction.
1. Stainless steel, 16 gauge, 0.0625 inch minimum metal thickness.
B. Landing Door Frames: Welded corner design, smooth joints.
1. Stainless steel, 16 gauge, 0.0625 inch minimum metal thickness.
C. Machine Pit Access Doors and Frames: Self-closing and locking, of same construction as landing doors and frames.
D. Door and Frame Construction: Fire rated, with 1-1/2 hour rating; insulated sandwich panel construction.

2.10 FINISHES
A. Structural Metal Surfaces: Clean surfaces of rust, oil or grease; wipe clean with solvent; prime two coats.
B. Machine Room Components: Clean and degrease; prime one coat.
C. Galvanized Surfaces: Clean with neutralizing solvent; prime one coat.
D. Enamel on Steel: Clean and degrease metal surface; apply one coat of primer; two coats of enamel; sprayed and baked; color as selected.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that hoistway, pit and machine room are of correct dimension.
- B. Verify location and layout of machine foundation and position of machine foundation bolts.
- C. Verify that electrical power is available and of correct characteristics.

3.2 PREPARATION

3.3 INSTALLATION
- A. Install system and components in accordance with ASME A17.1.
- B. Mount machine on vibration and acoustic isolators, on bed plate and concrete pad.
- C. Arrange equipment in machine room so equipment can be removed for repairs or replaced without dismantling or removing other equipment components.
- D. Install hoistway door sills, frames and headers in hoistway walls. Grout sills and frames in place.
- E. Connect equipment to building utilities.
- F. Provide conduit, boxes, wiring and accessories within machine room, hoistway and signal outlets.
- G. Field Welds: Chip and clean away oxidation and residue, wire brush and apply two coats of primer.

3.4 FIELD QUALITY CONTROL
- A. Field inspection and testing will be performed under provisions of Section 014000 - Quality Requirements.
- B. Perform tests required by ASME A17.2.
- C. Schedule tests with at least two weeks notice.
- D. Furnish test and approval certificates issued by authorities having jurisdiction.

3.5 ADJUSTING
- A. Adjust for smooth acceleration and deceleration of car.
- B. Adjust automatic leveling feature at each landing to within 1/2 inch from flush.

3.6 CLEANING
- A. Remove protective coverings from finished surfaces.
- B. Clean surfaces and components ready for inspection.

3.7 MAINTENANCE
- A. See Section 017000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.
- B. Provide a separate maintenance contract for specified maintenance service.
- C. Perform maintenance work using competent personnel, under supervision and in direct employment of dumbwaiter installer.
- D. Maintenance service shall not be assigned or transferred to any agent or subcontractor without the prior consent of Owner.
- E. Provide service and maintenance of dumbwaiter system and components for one year from Date of Substantial Completion.
- F. Examine monthly, clean, adjust, and lubricate equipment.
- G. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original equipment.

END OF SECTION

SECTION 311000

SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Clearing and protection of vegetation.
- B. Removal of existing debris.

1.2 RELATED REQUIREMENTS
- A. Section 011000 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 015000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 017000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
  - 1. Areas for temporary construction and field offices.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.1 SITE CLEARING
- A. Comply with other requirements specified in Section 017000.
- B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.2 VEGETATION
- A. Do not remove or damage vegetation beyond the limits indicated on drawings.
- B. Install substantial, highly visible fences at least 3 feet high to prevent inadvertent damage to vegetation to remain:
  - 1. At vegetation removal limits.
- C. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.
- D. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.
  - 1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.
  - 2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches.
  - 3. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.
- E. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.3 DEBRIS
- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 313116

TERMITE CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Chemical soil treatment.

1.2 REFERENCE STANDARDS
- A. Title 7, United States Code, 136 through 136y - Federal Insecticide, Fungicide and Rodenticide Act 2019.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate toxicants to be used, composition by percentage, dilution schedule, intended application rate.
- C. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements.
- D. Test Reports: Indicate regulatory agency approval reports when required.
- E. Manufacturer's Certificate: Certify that toxicants meet or exceed specified requirements.
- F. Certificate of compliance from authority having jurisdiction indicating approval of toxicants.
- G. Manufacturer's Instructions: Indicate caution requirement.
- H. Record and document moisture content of soil before application.
- I. Installer Qualifications: Company specializing in performing work of the type specified and with minimum three (3) years of documented experience.
- J. Maintenance Data: Indicate re-treatment schedule .
- K. Warranty: Submit warranty and ensure that forms have been completed in Owner's name.

1.4 QUALITY ASSURANCE
- A. Installer Qualifications: Company specializing in performing this type of work and:
  1. Having minimum of three (3) years documented experience.
  2. Approved by manufacturer of treatment materials.
  3. Licensed in the State in which the Project is located.

1.5 WARRANTY
- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year installer's warranty against damage to building caused by termites.
  1. Include coverage for repairs to building and to contents damaged due to building damage. Repair damage and, if required, re-treat.

PART 2 PRODUCTS

2.1 CHEMICAL SOIL TREATMENT
- A. Toxicant Chemical: EPA Title 7, United States Code, 136 through 136y approved; synthetically color dyed to permit visual identification of treated soil.
- B. Diluent: Recommended by toxicant manufacturer.
- C. Manufacturers:
  1. Bayer Environmental Science Corp[<>]: www.backedbybayer.com/pest-management/#sle.
  2. FMC Professional Solutions: www.fmcprosolutions.com/#sle.
  3. Syngenta Professional Products: www.syngentaprofessionalproducts.com/#sle.
  4. Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Verify that soil surfaces are unfrozen, sufficiently dry to absorb toxicant, and ready to receive treatment.
- B. Verify final grading is complete.

3.2 APPLICATION - CHEMICAL TREATMENT

A. Comply with requirements of U.S. EPA and applicable state and local codes.
B. Spray apply toxicant in accordance with manufacturer's instructions.
C. Apply toxicant at following locations:
   1. Under Slabs-on-Grade.
   2. At Both Sides of Foundation Surface.
D. Under slabs, apply toxicant immediately prior to installation of vapor barrier.
E. At foundation walls, apply toxicant immediately prior to finish grading work outside foundations.
F. Apply extra treatment to structure penetration surfaces such as pipe or ducts, and soil penetrations such as grounding rods or posts.
G. Re-treat disturbed treated soil with same toxicant as original treatment.
H. If inspection or testing identifies the presence of termites, re-treat soil and re-test.

3.3 PROTECTION

A. Do not permit soil grading over treated work.

END OF SECTION

SECTION 321713

PARKING BUMPERS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Precast concrete parking bumpers and anchorage.

1.2 REFERENCE STANDARDS
- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.
- B. ASTM C150/C150M - Standard Specification for Portland Cement 2022.
- C. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
- D. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete 2023.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide unit configuration, dimensions.

PART 2 PRODUCTS

2.1 MATERIALS
- A. Parking Bumpers: Precast concrete, conforming to the following:
  1. Profile: Rectangular cross section with sloped vertical faces, square ends.
  2. Cement: ASTM C150/C150M, Portland Type I - Normal; white color.
  3. Concrete Materials: ASTM C330/C330M aggregate, water, and sand.
  4. Reinforcing Steel: ASTM A615/A615M, deformed steel bars; unfinished, strength and size commensurate with precast unit design.
  5. Air Entrainment Admixture: ASTM C260/C260M.
  6. Concrete Mix: Minimum 5,000 psi compressive strength after 28 days, air entrained to 5 to 7 percent.
  7. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.
  8. Embed reinforcing steel, and drill or sleeve for two dowels.
  9. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
  10. Minor patching in plant is acceptable, providing appearance of units is not impaired.
- B. Dowels: Steel, galvanized finish; 1/2 inch diameter, pointed tip.
- C. Adhesive: Epoxy type.

PART 3 EXECUTION

3.1 INSTALLATION
- A. Install units without damage to shape or finish. Replace or repair damaged units.
- B. Install units in alignment with adjacent work.
- C. Fasten units in place with 2 dowels per unit.

END OF SECTION

SECTION 321723.13

PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Parking lot markings, including parking bays, handicapped symbols, and curb markings.
- B. "No Parking" curb painting.

1.2 REFERENCE STANDARDS
- A. FS TT-P-1952 - Paint, Traffic and Airfield Marking, Waterborne 2015f (Validated 2020).
- B. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.
- C. FHWA MUTCD - Manual on Uniform Traffic Control Devices 2009, with Editorial Revision (2022).

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- 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. Certificates: Submit for each batch of paint and glass beads stating compliance with specified requirements.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Deliver paint in containers of at least 5 gallons accompanied by batch certificate.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.5 FIELD CONDITIONS
- A. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MATERIALS
- A. Line and Zone Marking Paint: MPI (APL) No. 97 Latex Traffic Marking Paint; color(s) as indicated.
  1. Parking Lots: White.
  2. Handicapped Symbols: Blue.
- B. Paint For Obliterating Existing Markings: FS TT-P-1952; black for bituminous pavements, gray for portland cement pavements.
- C. Temporary Marking Tape: Preformed, reflective, pressure sensitive adhesive tape in color(s) required; Contractor is responsible for selection of material of sufficient durability as to perform satisfactorily during period for which its use is required.

PART 3 EXECUTION

3.1 EXAMINATION
- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
- A. Allow new pavement surfaces to cure for a period of not less than 14 days before application of marking materials.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Obliteration of existing markings using paint is acceptable in lieu of removal; apply the black paint in as many coats as necessary to completely obliterate the existing markings.
D. Clean surfaces thoroughly prior to installation.
   1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
   2. Completely remove rubber deposits, existing paint markings, and other coatings adhering to the pavement, by scraping, wire brushing, sandblasting, mechanical abrasion, or approved chemicals.
E. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.
F. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.
G. Temporary Pavement Markings: When required or directed by Architect, apply temporary markings of the color(s), width(s) and length(s) as indicated or directed.
   1. After temporary marking has served its purpose, remove temporary marking by carefully controlled sandblasting, approved grinding equipment, or other approved method so that surface to which the marking was applied will not be damaged.
   2. At Contractor's option, temporary marking tape may used in lieu of temporary painted marking; remove unsatisfactory tape and replace with painted markings at no additional cost to Owner.

3.3 INSTALLATION
A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.
B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.
C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.
D. Comply with FHWA MUTCD manual (http://mutcd.fhwa.dot.gov) for details not shown.
E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.
F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on drawings true, sharp edges and ends.
   1. Apply paint in one coat only.
   2. Wet Film Thickness: 0.015 inch, minimum.
   3. Length Tolerance: Plus or minus 3 inches.
   4. Width Tolerance: Plus or minus 1/8 inch.
G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
   1. Mark the International Handicapped Symbol at indicated parking spaces.
   2. Hand application by pneumatic spray is acceptable.
H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

3.4 DRYING, PROTECTION, AND REPLACEMENT
A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.
B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.
C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.
D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.
E. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.
F. Replace removed markings at no additional cost to Owner.

END OF SECTION

SECTION 321726

TACTILE WARNING SURFACING

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Tactile warning surfacing for pedestrian walking surfaces.

1.2 REFERENCE STANDARDS
- A. 49 CFR 37 - Transportation Services for Individuals with Disabilities (ADA) current edition.
- B. AASHTO LRFD - Bridge Design Specifications 2020, with Errata (2021).
- C. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- D. ASTM A48/A48M - Standard Specification for Gray Iron Castings 2022.
- E. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- F. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus 2019.
- G. ASTM C501 - Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser 2021.
- H. ASTM C903 - Standard Practice for Preparing Refractory Specimens by Cold Gunning 2015 (Reapproved 2020).
- I. ASTM D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine 2017.
- J. ASTM D543 - Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents 2021.
- K. ASTM D570 - Standard Test Method for Water Absorption of Plastics 2022.
- L. ASTM D638 - Standard Test Method for Tensile Properties of Plastics 2022.
- M. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics 2023.
- N. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials 2017.
- O. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023c.
- P. ASTM G155 - Standard Practice for Operating Xenon Arc Lamp Apparatus for Exposure of Materials 2021.
- Q. ATBCB PROWAG - Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way 2011.

1.3 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's product data, standard details, details specific to this project; written installation and maintenance instructions.
- C. Samples: For each product specified provide two samples, 8 inches square, minimum; show actual product, color, and patterns.
- D. Shop Drawings: Submit plan and detail drawings. Indicate:
  1. Locations on project site. Demonstrate compliance with referenced accessibility standards.
  2. Sizes and layout.
  3. Pattern spacing and orientation.
  4. Attachment and fastener details, if applicable
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.
- G. Warranty: Submit manufacturer warranty; complete forms in Owner's name and register with manufacturer.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years documented experience.
- B. Installer Qualifications: Company certified in writing by product manufacturer as having successfully completed work substantially similar to the work of this section.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Deliver to project site in manufacturer's protective wrapping and in manufacturer's unopened packaging.

B. Store covered and elevated above grade and in manufacturer's unopened packaging until ready for installation. Maintain at ambient temperature between 40 and 90 degrees F.

1.6 FIELD CONDITIONS
A. Existing Conditions: See site and utility survey, geotechnical report, and site drawing.

1.7 WARRANTY
A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
B. Cast Iron Tiles: Provide manufacturer's standard ten year warranty against manufacturing defects, breakage or deformation.
C. Plastic Tiles: Provide manufacturer's standard five year warranty against manufacturing defects, breakage or deformation.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Plastic Tactile and Detectable Warning Surface Tiles:
1. Access Tile, a brand of Access Products, Inc: www.accessproducts.com/#sle.
2. ADA Solutions, a division of SureWerx USA: www.adatile.com/#sle.
3. EqualTile, a brand of Advanced Roadway Manufacturing, Inc: www.equaltile.com/#sle.
4. Armor-Tile, a brand of Engineered Plastics, Inc: www.armortiletransit.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.
B. Cast Iron Detectable Warning Plates:
1. ADA Solutions, a division of SureWerx USA: www.adatile.com/#sle.
2. EqualTile, a brand of Advanced Roadway Manufacturing, Inc: www.equaltile.com/#sle.
3. EJ: www.ejco.com/#sle.
4. Neenah Foundry, a division of Neenah Enterprises, Inc: www.nfco.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.
C. Composite Directional Bar Tiles:

2.2 TACTILE AND DETECTABLE WARNING DEVICES
A. Plastic Tactile and Detectable Warning Tiles: Comply with ADA Standards, glass fiber and carbon fiber reinforced, exterior grade, matte finish polyester sheet with truncated dome pattern, solid color throughout, internal reinforcing of sheet and of truncated domes, integral radius cut lines on back face of tile; with factory-applied removable protective sheeting.
1. Material Properties:
a. Water Absorption: 0.20 percent, maximum, when tested in accordance with ASTM D570.
b. Slip Resistance: 0.50 minimum dry static coefficient of friction, when tested in accordance with ASTM D2047.
c. Compressive Strength: 25,000 pounds per square inch, minimum, when tested in accordance with ASTM D695.
d. Tensile Strength: 10,000 pounds per square inch, minimum, when tested in accordance with ASTM D638.
e. Flexural Strength: 25,000 pounds per square inch minimum, when tested in accordance with ASTM D790.
f. Chemical Stain Resistance: No reaction to 1 percent hydrochloric acid, motor oil, calcium chloride, gum, soap solution, bleach, or antifreeze, when tested in accordance with ASTM D543.
g. Abrasion Resistance: 300, minimum, when tested in accordance with ASTM C501.
h. Flame Spread Index: 25, maximum, when tested in accordance with ASTM E84.
i. Accelerated Weathering: Delta-E of less than 5.0 at 2,000 hours exposure, when tested in accordance with ASTM G155.
j. Adhesion: No delamination of tile prior to board failure in a temperature range of 20 to 180 degrees F, when tested in accordance with ASTM C903.
k. Loading: No damage when tested according to AASHTO LRFD test method HS20.
l. Salt and Spray Performance: No deterioration or other defect after 200 hours of exposure, when tested in accordance with ASTM B117.
2. Installation Method: Cast in place.

3. Shape and Dimensions: As indicated on Drawings.
4. Pattern: In-line pattern of truncated domes complying with ADA Standards.
5. Color: As selected by Architect from manufacturer's standard range.

B. Cast Iron Detectable Warning Plates:
1. Material: Cast gray iron; ASTM A48/A48M, Class 30 A (minimum).
2. Installation Method: Cast in place.
3. Shape and Dimensions: As indicated on Drawings.
4. Pattern: Truncated cones in compliance with ADA Standards.
5. Joint: Manufacturer standard, bolted connection.
6. Finish: Manufacturer's factory-applied powder coat.
7. Color: As selected by Architect from manufacturer's standard range.

2.3 ACCESSORIES
A. Fasteners: ASTM A666, Type 304 stainless steel
1. Type: Countersunk, color matched composite sleeve anchors
2. Size: 1/4 inch diameter and 1-1/2 inches long.

B. Sealant: Elastomeric sealant of color to match adjacent surfaces; approved by surfacing tile manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION
A. When installation location is near site boundary or property line, verify required location using property survey.
B. Verify that work area is ready to receive work:
1. Examine work area with installer present.
2. If existing conditions are not as required to properly complete the work of this section, notify Architect.
3. Do not proceed with installation until deficiencies in existing conditions have been corrected.

C. Verify that dimensions, tolerances, and attachment methods for work in this section are properly coordinated with other work on site.

3.2 INSTALLATION, GENERAL
A. Install in accordance with manufacturer's written instructions.
1. Do not install damaged, warped, bowed, dented, abraded, or otherwise defective units.
2. Do not install when ambient or substrate temperature has been below 40 degrees F during the preceding 8 daylight hours.

B. Field Adjustment:
1. Cut units to size and configuration shown on drawings.
2. Do not cut plastic tiles to less than 9 inches wide in any direction.
3. Locate relative to curb line in compliance with ATBCB PROWAG, Sections 304 and 305.
4. Orient so dome pattern is aligned with the direction of ramp.
5. Align truncated dome pattern between adjacent units.

C. Install units fully seated to substrate, square to straight edges and flat to required slope.
D. Align units so that tops of adjacent units are flush and joints between units are uniform in width.

3.3 INSTALLATION, CAST IN PLACE PLASTIC TILES
A. Concrete:
1. See Structural requirements.
2. Slump: 4 to 7 percent.

B. When installing multiple adjacent units, leave a 3/16 inch gap between units to allow for expansion.
C. Tamp and vibrate units as recommended by manufacturer.
D. Place and position weights on units while concrete cures as recommended by manufacturer. Ensure no voids or air pockets exist between top surface of concrete and underside of units.

3.4 INSTALLATION - CAST IN PLACE, CAST IRON PLATES
A. See Structural requirements.
B. When installing multiple adjacent units, connect plates before placing.
C. Install by method described in manufacturer's written instructions.

D. Place units into wet concrete.
E. Press assembly into concrete to achieve final elevation.
F. Finish concrete adjacent to plate. Remove wet concrete spilled onto plate surface.

3.5 FIELD QUALITY CONTROL
A. See Section 014000 - Quality Requirements for additional requirements.
B. Coordination of Other Tests and Inspections: Provide access to accommodate tests and inspections by independent testing agency employed by Owner.

3.6 CLEANING PLASTIC UNITS
A. Remove protective plastic sheeting within 24 hours of installation.
B. Remove excess sealant or adhesive from joints and edges.
C. Clean four days prior to date of scheduled inspection.

3.7 PROTECTION
A. Protect installed units from traffic, subsequent construction operations or other imposed loads until concrete is fully cured.
B. Touch-up, repair or replace damaged products prior to Date of Substantial Completion.

END OF SECTION

SECTION 323119

DECORATIVE METAL FENCES AND GATES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Decorative steel fences.

1.2 REFERENCE STANDARDS
- A. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus 2019.
- B. ASTM D523 - Standard Test Method for Specular Gloss 2014 (Reapproved 2018).
- C. ASTM D714 - Standard Test Method for Evaluating Degree of Blistering of Paints 2002 (Reapproved 2017).
- D. ASTM D822/D822M - Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings 2013 (Reapproved 2018).
- E. ASTM D1654 - Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments 2008, with Editorial Revision (2017).
- F. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates 2023.
- G. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact) 1993 (Reapproved 2019).
- H. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test 2023.
- I. ASTM F2408 - Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets 2016 (Reapproved 2023).

1.3 ADMINISTRATIVE REQUIREMENTS
- A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to start of work of this section; require attendance by affected installers.

1.4 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit 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:
  1. Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
- D. Installer's Qualification Statement.
- E. Manufacturer's Warranty.

1.5 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING
- A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

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

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Decorative Metal Fences and Gates:

1. Alumi-Guard: www.alumi-guard.com/#sle.
2. Ameristar Perimeter Security, USA: www.ameristarfence.com/#sle.
3. Ross Technology Corporation: www.rosstechnology.com/#sle.
4. Superior Aluminum Products, Inc: www.superioraluminum.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.

B. Decorative Fence Panel
1. Laser Cut Arts, Inc.: lasercutarts.com.
2. Substitutions: See Section 016000 - Product Requirements.

2.2 FENCES
A. Fences: Complete factory-fabricated system of posts and panels, accessories, fittings, and fasteners; finished with electrodeposition coating, and having the following performance characteristics:
B. Electro-Deposition Coating: Multi-stage pretreatment/wash with zinc phosphate, followed by epoxy primer and acrylic topcoat.
1. Color: As selected by Architect from manufacturer's standard range.
2. Coating Performance: Comply with general requirements of ASTM F2408.
a. Adhesion: ASTM D3359 (Method B); Class 3B with 90 percent or more of coating remaining in tested area.
b. Corrosion Resistance: ASTM B117, ASTM D714 and ASTM D1654; 1/8 inch coating loss or medium No.8 blisters after 1,500 hours.
c. Impact Resistance: ASTM D2794; 60 inch pounds.
d. Weathering Resistance: ASTM D523, ASTM D822/D822M and ASTM D2244; less than 60 percent loss of gloss.
C. Steel: ASTM A653/A653M; tensile strength 45,000 psi, minimum.
1. Hot-dip galvanized; ASTM A653/A653M, G60.

2.3 WELDED STEEL FENCE
A. Provide fence meeting requirements for Industrial class as defined by ASTM F2408.
B. Fence Panels: Fusion welded; 6 feet high by 6 feet long.
1. Panel Style: As indicated.
2. Attach panels to posts with manufacturer's standard panel brackets.
C. Pickets: Steel tube.
1. Spacing: 3-3/4 inch clear.
2. Style: Pickets with finial extend above top rail.
3. Finial: Spear point.
D. Decorative Infill Panels: Prefinished, laser cut decorative metal panels.
1. Basis-of-Design Product:
a. Laser Cut Arts; Tree Privacy Panel.
b. Substitutions: See Section 016000.
E. Flexibility: Capable of following variable slope of up to 1:2.
F. Color: Black.

PART 3 EXECUTION

3.1 EXAMINATION
A. Do not begin installation until substrates have been properly prepared.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION
A. Clean surfaces thoroughly prior to installation.

3.3 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Set fence posts in accordance with the manufacturer recommended spacing.
C. When cutting rails immediately seal the exposed surfaces by:
1. Removing metal shavings from cut area.
2. Apply zinc-rich primer to thoroughly cover cut edge and drilled hole; allow to dry.
3. Apply two coats of custom finish spray paint matching fence color.

4. Failure to seal exposed surfaces in accordance with manufacturer's instructions will negate manufacturer's warranty.

D. Space gate posts according to the manufacturers' drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected.
   1. Identify the necessary hardware required for the application on the manufacturer's gate drawings.
   2. Provide gate hardware by the manufacturer of the gate and install in compliance with manufacturer's recommendations.

E. Install decorative privacy panels in accordance with manufacturer's recommendations.

3.4 ERECTION TOLERANCES
A. Maximum Variation From Plumb: 1/4 inch.
B. Maximum Offset From Indicated Position: 1 inch.
C. Minimum Distance from Property Line: 6 inches.

3.5 CLEANING
A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.
B. Clean fence with mild household detergent and clean water rinse well.
C. Remove mortar from exposed posts and other fencing material using a 10 percent solution of muriatic acid followed immediately by several rinses with clean water.
D. Touch up scratched surfaces using materials recommended by manufacturer. Match touchup paint color to fence finish.

3.6 PROTECTION
A. Protect installed products until completion of project.
B. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 323130

WELDED METAL GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. Provisions established within General and Supplementary Conditions of the Contract, Division 01 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES
- A. Painted, swinging metal gate, welded construction at exterior service enclosure.

1.3 SUBMITTALS
- A. Submit product data in accordance with Division 01 Section œSubmittals requirements.
- B. Submit shop drawings and illustrate Dimensioned site plan and elevations showing fence and gate layout.

1.4 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Capable of fabrication of swinging metal gates of the type specified; in business for not less than 10 years, and have 10 documented installations similar to the specified system.

1.5 JOB CONDITIONS
- A. Visit site and determine all conditions which will affect installation of gates and include all cost necessary to adapt to site conditions.
- B. Verify exact locations and install gates as required.
- C. Determine grades and elevation along screen wall and adjust gate height as necessary to adapt to finish grade.

PART 2 - PRODUCTS

2.1 MATERIALS
- A. Steel Sections: ASTM A36.
- B. Steel Tubing: ASTM A500, Grade B.
- C. Rails: 2 inch x 4 inch rectangular tubing (unless indicated otherwise on Drawings).
- D. Posts: 4 inch x 4 inch rectangular tubing. (unless indicated otherwise on Drawings).
- E. Panels: Prefabricated metal panels.
- F. Gate Hardware: Self closing and latching with provision for padlock.

2.2 COATING
- A. Epoxy Paint: Refer to Section 099100.

2.3 FABRICATION
- A. Pre-cut posts and rails to specified length. Fully weld all connections in shop and field.

2.4 GATES
- A. Provide manually operated, hinged, and swinging gates of sizes and locations indicated. Provide design to support panels, complete with heavy duty hinges, hasps, and anchorage devices.
- B. Coordinate design and fabrication of gates with the Architect.

PART 3 - EXECUTION

3.1 PREPARATION
- A. Layout hinges and gates according to actual field dimension.

3.2 INSTALLATION
- A. Set gates at sanitation enclosure at location indicated on Drawings and as required.

END OF SECTION

ATTACHMENT “E”

MATERIALS BOOK

GREEN TREE LIBRARY

ADDITION AND RENOVATION

MATERIALS

EXTERIOR

VITRO
SOLARBAN ATLANTICA
CLEAR INSULATING
GLASS UNIT

FALLBROOK
(TO MATCH
EXISTING)

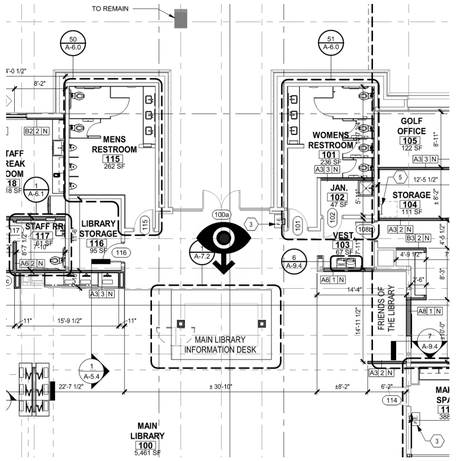
GREENLAND
(TO MATCH
EXISTING)

CHARLESTON
(TO MATCH
EXISTING)

STUCCO
SMOOTH
FINISH

STEEL FENCE
PAINTED BLACK

CAST IN PLACE
CONCRETE WALLS
AND COLUMNS
SOLOMON COLOR
306 CANVAS
(TO MATCH
EXISTING)



INTERIOR
CIRCULATION DESK

LIGHT BEIGE
DE6211

CRISP MUSLIN
DE6212

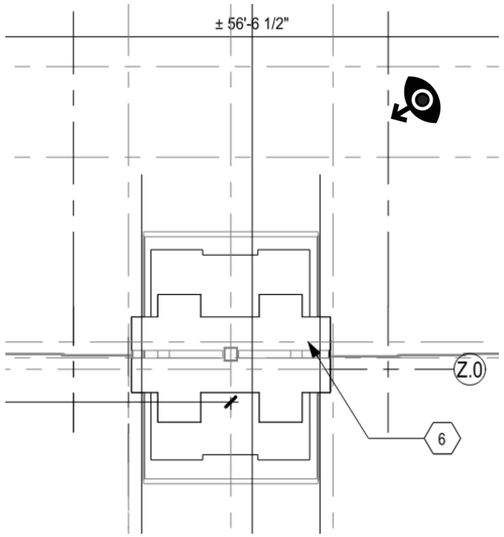
MOHAWK GROUP
HOT AND HEAVY
859 ON THE LINE

PATCRAFT
MAKER
HARMONY 00800

LIGHT BEIGE
DE6211

3FORM PANELS
CUSTOM PATTERN

WILSONART
CARRARA EMPORIO
9909SS



INTERIOR

MAIN LIBRARY

MECHO SHADE
EUROTWILL

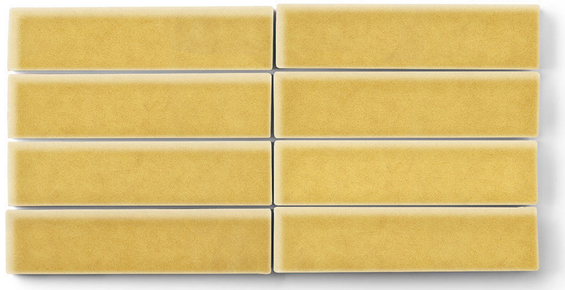
Silver Birch · 6206, 6006

GEORGIA CLAY
DE5181

DIJON MUSTARD
DE5451

PATCRAFT
VISIONARY
HARMONY 00800

PATCRAFT
MAKER
HARMONY 00800

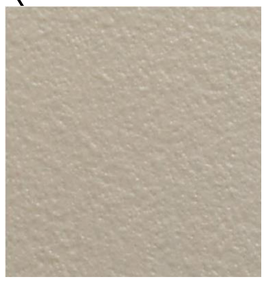


FIRECLAY
HAYSTACK 2X8

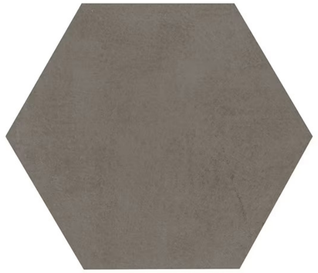
CRISP MUSLIN
DE6212

DALTILE
SYNCHRONIC
WHITE 12X18

INTERIOR
RESTROOMS



SCRANTON PARTITIONS
CONCRETE



MARAZZI
LIGHT MOSS HEXAGON
MC53 8X9

INTERIOR
MULTI-PURPOSE ROOM

CRISP MUSLIN
DE6212

EXISTING WOOD CEILING

FROSTED?

MOHAWK GROUP
COUNTER CASUAL
SAND WASH 838

SUSTAINABLE MATERIALS
CORK BRICK
NATURAL

MDC ZINTRA
ACOUSTIC WALL PANEL

INTERIOR
MAKER SPACE

WILSONART
TRACELESS
FEATHER VELVET

WILSONART
TRACELESS
SLATE VELVET

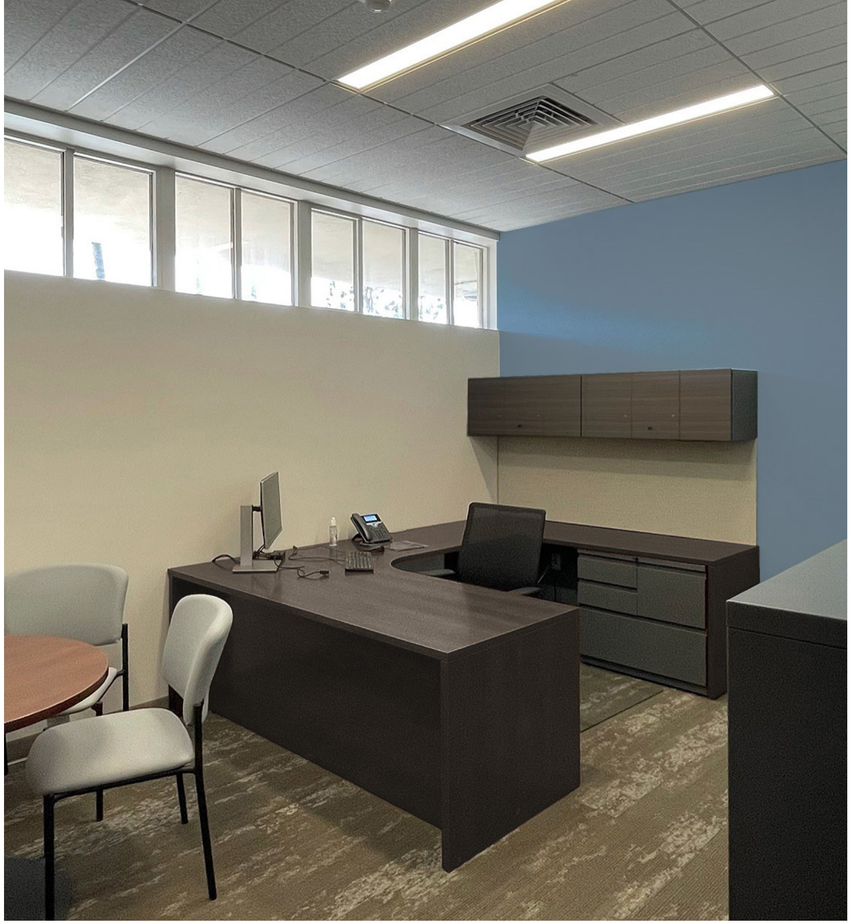
STORMY SKY
1616

EXISTING WOOD CEILING

CRISP MUSLIN
DE6212

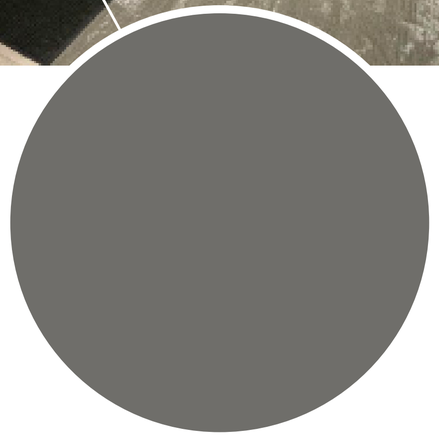
WILSONART
TRACELESS
FEATHER VELVET

MOHAWK GROUP
HOT AND HEAVY
859 ON THE LINE



INTERIOR
OFFICES/
MEETING ROOMS

INTERIOR
BREAK ROOM



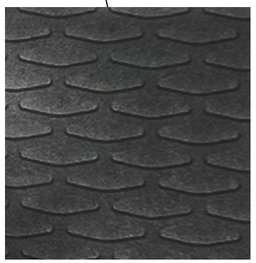
INTERIOR
TEEN ROOM

CRISP MUSLIN
DE6212

LIGHT BEIGE
DE6211

CLARUS GLASS
CBC-825 NEON BLACK

MOHAWK GROUP
MADE TO LAST
LIGHT WASH 535



MDC ZINTRA
ACOUSTIC WALL PANEL

INTERIOR
CHILDREN'S LIBRARY

BLUE TOILE
748
BENJAMIN MOORE

CRISP MUSLIN
DE6212

LIGHT BEIGE
DE6211

DIJON MUSTARD
DE5451

SUSTAINABLE MATERIALS
CORK BRICK
NATURAL

PATCRAFT
MAKER
HARMONY 00800

INTERIOR
CHILDREN'S LIBRARY

LIGHT BEIGE
DE6211

CRISP MUSLIN
DE6212

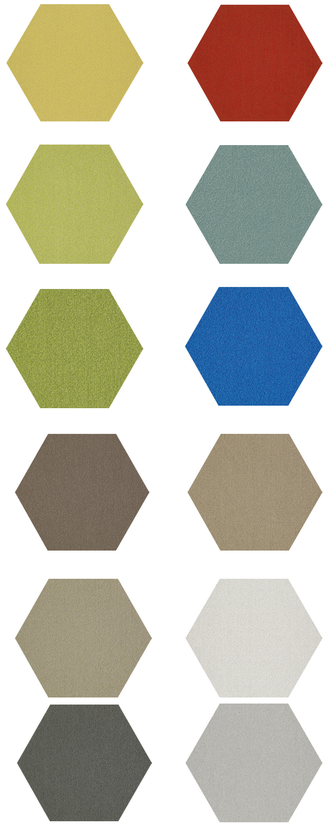
SILVER SKATE
DE5801

D501
ORANGE GROVE

Y0359
LEMON LIME

Y0698
BONAIRE

WILSONART



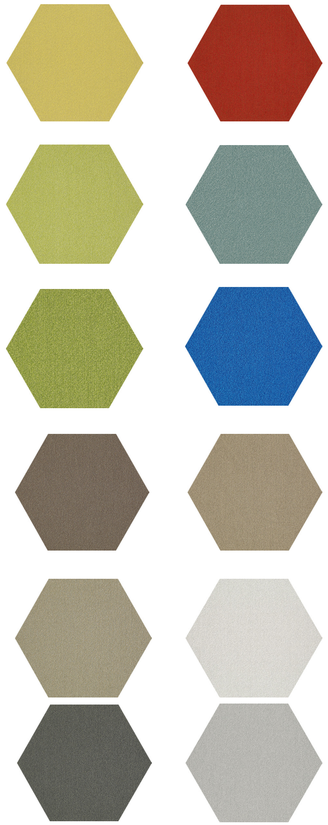
SHAW CONTRACT
HEXAGON PLANE/
CONTACT

INTERIOR
CHILDREN'S LIBRARY

BLUE TOILE
748
BENJAMIN MOORE

ELECTRIC SLIDE
404
BENJAMIN MOORE

LIGHT BEIGE
DE6211



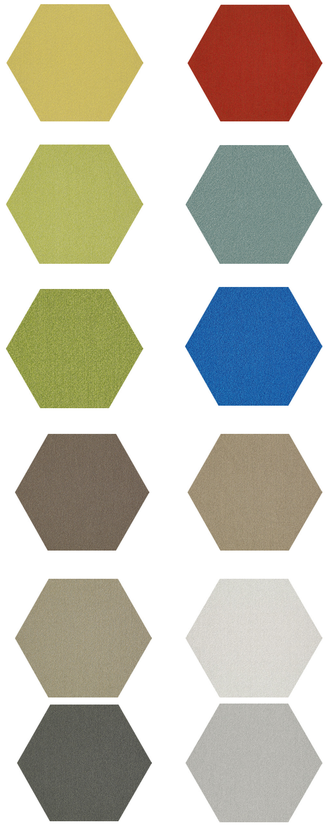
SHAW CONTRACT
HEXAGON PLANE/
CONTACT

INTERIOR
CHILDREN'S LIBRARY

LIGHT BEIGE
DE6211

BLUE TOILE
748
BENJAMIN MOORE

ELECTRIC SLIDE
404
BENJAMIN MOORE



SHAW CONTRACT
HEXAGON PLANE/
CONTACT

<u>EXHIBIT B</u>

COST PROPOSAL

See Attachment

CITY OF VICTORVILLE
RFP JM25-025
PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE

PROPOSAL SHEET

The undersigned declares that the locations of the proposed scope of services have been carefully examined; and being familiar with all of the conditions surrounding the services requested, including the availability of equipment/furniture and labor, the undersigned hereby proposes to furnish all labor, materials, tools, furniture, fixtures, equipment, and incidentals (if applicable), to fulfill the scope of services at both the library and golf course facility. All of the aforementioned shall be done in accordance with said scope of services for the price set forth in the following schedule:

NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE, 14144 Green Tree Blvd., Victorville, CA 92395

ITEM	DESCRIPTION	TOTAL AMOUNT
1	Total costs as shown in the Scope of Work, shall include but not limited to labor, materials, furniture, fixtures, equipment, tools, finishing, transportation, and incidentals required for the proper completion of the work	
	TOTAL BID	$ 762,731.35

TOTAL COST IN WORDS:

Seven hundred sixty-two thousand seven hundred thirty-one dollars & thirty-five cents

COST DETAIL: Costs should also be broken down in a unitary manner to allow for additions or deletions to the scope, such as the addition or deletion of a chair, table, cubicle, book stack, etc.:

ITEM	DESCRIPTION	AMOUNT PER ITEM
	Please see broken down quotes attached	

Proposer Name: Yamada Enterprises

By: Parker Braverman Title: President

Address: 16552 Burke Lane, Huntington Beach, CA 92647

Phone: 714 843-9882 Email Address: parker@yamadaenterprises.com

Signature	Title	Date
	President	10/08/24

NOTE: COST PROPOSAL SHEET (PAGES 20-21) NEEDS TO BE SUBMITTED SEPARATELY IN A <u>SEALED</u> ENVELOPE CLEARLY IDENTIFIED AS "SEALED DOLLAR COST FOR JM25-025 PLAN, FURNISH, DELIVER, AND INSTALL FURNITURE, FIXTURES, AND EQUIPMENT (FF&E) FOR THE NEW LIBRARY AND GREEN TREE GOLF COURSE CLUBHOUSE"

QUOTATION # 24220-P

YAMADA ENTERPRISES

16552 Burke Lane, Huntington Beach, CA 92647-4538
(714) 843-9882 • (800) 444-4594 • FAX (714) 843-9202

To: John Mendiola
City of Victorville
New Library & Green Tree Golf Course
Clubhouse
14144 Green Tree Blvd
Victorville, CA 92395

Date: 10/9/2024
Job Location: Victorville
Est. Lead Time: 16 weeks
Freight: Included
F.O.B.: Destination
Terms: Net 30

ITEM	QTY.	PART NO.	DESCRIPTION	UNIT PRICE	EXTENSION
			Shelving		
1.	51		Type A Mobile Shelving, 36"W x 24-7/8"D x 42"H. See elevation drawing for detailed view.	688.00	$ 35,088.00
2.	16		Type B Mobile Shelving, 36"W x 24-7/8"D x 42"H. See elevation drawing for detailed view.	764.00	$ 12,224.00
3.	3		Type C Shelving, 36"W x 24"D x 45"H. See elevation drawing for detailed view.	390.00	$ 1,170.00
4.	27		Type D Shelving, 36/30"W x 12"D x 45"H. See elevation drawing for detailed view.	269.00	$ 7,263.00
5.	6		Type E Shelving, 36/30"W x 12"D x 45"H. See elevation drawing for detailed view.	309.00	$ 1,854.00
6.	52		Type F Shelving, 36"W x 24"D x 72"H. See elevation drawing for detailed view.	751.00	$ 39,052.00
7.	10		Type G Shelving, 36/30"W x 12"D x 72"H. See elevation drawing for detailed view.	406.00	$ 4,060.00
8.	9		Type H Shelving, 36"W x 12"D x 72"H. See elevation drawing for detailed view.	476.00	$ 4,284.00
9.	12		Type I Shelving, 36"W x 12"D x 84"H. See elevation drawing for detailed view.	494.00	$ 5,928.00

10.	8		Type J Shelving, 36"W x 24"D x 72"H. See elevation drawing for detailed view.	853.00	$ 6,824.00
11.	18		Type K Shelving 48/36"W x 18"D x 85-1/4"H. See elevation drawing for detailed view.	1,187.00	$ 21,366.00
11.	1		Misc: wall clips and canopy support brackets	1,111.00	$ 1,111.00
			End Panels		
			1-1/4" thick HPL faces with 3mm PVC edges		
12.	6		13-1/2"D x 84-1/2"H	369.00	$ 2,214.00
13.	30		25"D x 72-1/2"H	564.00	$ 16,920.00
14.	6		13-1/2"D x 72-1/2"H	315.00	$ 1,890.00
15.	2		25"D x 46-3/4"H	344.00	$ 688.00
16.	10		14-1/2"D x 46-3/4"H	221.00	$ 2,210.00
17.	4		13-1/2"D x 46-3/4"H	206.00	$ 824.00
18.	68		25-1/2"D x 48-1/4"H	363.00	$ 24,684.00
			Canopy Top Type 1		
			1-1/4" thick HPL faces with 3mm PVC edges on 2 long sides		
19.	1		24-1/2"W x 108-1/8"L	795.00	$ 795.00
20.	31		25"W x 72-1/8"L	476.00	$ 14,756.00
21.	3		25"W x 36-1/8"L	278.00	$ 834.00
			Canopy Top Type 2		
			1-1/4" thick HPL faces with 3mm PVC edges on 1 long side		
22.	1		13-1/4"W x 216-1/4"L	993.00	$ 993.00
23.	1		13-1/4"W x 108-1/8"L	459.00	$ 459.00
24.	2		14"W x 75"L (cut in field & scribe at wall)	341.00	$ 682.00
25.	10		14"W x 70"L (cut in field & scribe at wall)	327.00	$ 3,270.00

			Corner Filler		
			3/4" thick HPL with self edge		
26.	2		13-1/4"W x 13-1/4"D x 72-1/2"L	384.00	$ 768.00

NOTES:

Colors and finishes to be standard. Laminate is standard.

			COST OF MATERIAL		$ 212,211.00
			SALES TAX	**8.750%**	$ 18,568.46
			FREIGHT		$ 8,870.00
			CALCS		$ 2,450.00
			INSTALLATION		$ 30,533.00
			TOTAL		**$ 272,632.46**

1. This quotation is subject to change unless accepted within 30 days from the above date.
2. Shipping dates are approximate and are based upon receipt of all necessary information.
3. Prices quoted do not include direct taxes imposed by Federal, State or Municipal authorities unless stated.
4. A service charge of 1½% per month (18% annum) will be charged on all past due accounts.
5. If paying with credit card, add 3.75% to total.

Parker Braverman

Parker Braverman
parker@yamadaenterprises.com

QUOTATION # 24215-P

YAMADA ENTERPRISES

16552 Burke Lane, Huntington Beach, CA 92647-4538
(714) 843-9882 • (800) 444-4594 • FAX (714) 843-9202

To: John Mendiola
City of Victorville
New Library & Green Tree Golf Course
Clubhouse
14144 Green Tree Blvd
Victorville, CA 92395

Date: 10/9/2024
Job Location: Victorville Green Tree Library
Est. Lead Time: 16-18 Weeks
Freight: See Below
F.O.B.: Destination
Terms: Net 30

ITEM	QTY.	PART NO.	DESCRIPTION	UNIT PRICE	EXTENSION
			Main Library 100		
F1	1	BLK-DSP-2424-54-C	Agati Blocks Book Display with laminate shelves and hidden casters, 24"W x 24"D x 54"H **Laminate:** TBD	6,906.00	$ 6,906.00
F2	4	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 2,120.00
F3	6	SNSA11318AR	TMC Enshell Adult chair with arc shaped wooden shell, forbo marmoleum shell face, powdercoated metal sled base, and nylon glides, 19 1/2"W x 22 1/2"D x 33 1/2"H with 18"H seat **Wood:** Maple **Wood Finish:** Clear **Forbo Marmoleum:** TBD **Base Finish:** TBD	496.00	$ 2,976.00
F4	3	BRK-DSP-3624-54-C	Agati Bricks Book Display with laminate shelves and hidden casters, 36"W x 24"D x 54"H **Laminate:** TBD	8,176.00	$ 24,528.00

F5	8	SK-4236-LAM-SS	3branch Skware Study Table with laminate top, PVC edge, magnetic wire management channel, and metal base, 42"W x 36"D x 30"H **Laminate**: TBD **Edge Finish:** TBD **Base Finish:** TBD	2,416.00	$ 19,328.00
	8	COV-2U-B-108	Dekko Cove 2 power 2 USB receptacle **Finish:** TBD	189.00	$ 1,512.00
F6	16	TA 1004/W	True Design Tao 4-Leg Chair with wood back, wood seat, and metal frame, 22"W x 21"D x 30"H with 19"H seat **Wood:** Walnut **Wood Finish:** TBD **Frame Finish:** TBD	773.00	$ 12,368.00
			or		
F6	16	LI 1004	**Option 2** True Design Lisa 4-Leg XL Chair with wood back, wood seat, and wood legs, 23.6"W x 18.7"D x 30.7"H with 17.7"H seat **Wood:** Ashwood, Oakwood, or Dark Oakwood **Wood Finish:** TBD	898.00	
			or		
F6	16	PER S S	**Option 3** Worden Peer Sled Base Chair with wood back, wood seat and wood frame, 22"W x 22"D x 32"H with 18"H seat Wood: Birch Wood Finish: TBD	758.00	
F7	6	FD 7094	**Option 1** True Design Fender Lounge Chair with upholstered seat, back, and arms, and wooden base, 27 1/2"W x 30"D x 31 1/2"H with 17 1/2"H seat **Fabric:** TBD Grade F **Base Finish:** TBD	2,208.00	$ 13,248.00
			or		
F7	8	FD 7094	**Option 2** True Design Fender Lounge Chair with upholstered seat, back, and arms, and wooden base, 27 1/2"W x 30"D x 31 1/2"H with 17 1/2"H seat **Fabric:** TBD Grade F **Base Finish:** TBD	2,208.00	

F8	2	TML4215MV46	**Option 1** TMC Oblong Lake Drum Table with laminate top and cylindrical wood veneer base, 42"W x 23"D x 15 3/4"H **Wood:** Maple **Laminate:** TBD **Edge Style:** Exposed Ply Edge with Reverse Bevel **Base: Finish:** TBD	1,227.00	$ 2,454.00
			or		
F8	2	4116-0042-LP	**Option 2** Worden 4000 Series Cylindrical Drum Table with laminate top and wood base, 42"DIA x 16"H **Laminate:** TBD **Wood:** Maple **Wood Finish:** TBD	2,218.00	
F9	2	WAL 01 60	Worden Wallace Bench with full-width wood seat, metal legs, and leveling glides, 60"W x 13"D x 17"H **Wood:** European Beech **Wood Finish:** Clear **Leg Finish:** TBD	790.00	$ 1,580.00
			or		
F9	2	SMU1056018	TMC Museum Bench, 60"W x 20"D x 18"H **Wood:** Maple **Wood Finish:** TBD	1,519.00	
			Golf Office 105		
F10	1		DeskMakers Hover Desk with modesty panel and height adjustable base, Mobile Box-File Pedestal, and Lateral File Storage Cabinet Combo. Includes SitOnIt Mobio dual monitor arm	3,879.00	$ 3,879.00

F11	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00
F12	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Golf Shop 106		
F13	1	SF-NT	Creative Store Solutions Nesting Display Table Set with MDF tops and steel frames, 60"W x 30"D x 32"H **Top Finish:** Clear **Frame Finish:** Clear	1,820.00	$ 1,820.00
F14	1	4WAYRAD	Creative Store Solutions 4-Way Apparel Display with metal tube structure, MDF base, and accessories, 18"W x 22"D x 71"H **Tube Finish:** Textured Black **Base Finish:** Rustic Barn	1,080.00	$ 1,080.00
F15	1	JDA-TT48	Creative Store Solutions 3-Tier Square Table with wood frame, 48"W x 48"D x 42"H **Color:** Maple	620.00	$ 620.00
F16	1	JDA-TT60	Creative Store Solutions 3-Tier Rectangular Table with wood frame, 60"W x 42"D x 39"H **Color:** Maple	850.00	$ 850.00
			Food/Bar 107		

F17	4	TA 7505/W	**Option 1** True Design Tao 4-Leg Stool with wood back, wood seat, and metal frame, 16 3/4"W x 20 3/4"D x 40"H with 29 1/2"H seat **Wood:** Walnut **Wood Finish:** TBD **Frame Finish:** TBD	906.00	$ 3,624.00
			or		
F17	4	1011 FT1 A0 PS SC23 GL2 S2 FC2 AB	**Option 2** SitOnIt Lumin Four Leg Barstool with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	266.00	
			Golf Lounge 108		
F18	3	TTBR3660L2029	TMC T-Base Table with laminate top, wood edgeband, metal base, and adjustable leveling glides, 60"W x 36"D x 29"H **Laminate:** TBD **Edge Style:** Maple Edge **Edge Finish:** TBD **Leg Finish:** TBD	1,195.00	$ 3,585.00
F19	1	TTBR3642L2029	TMC T-Base Table with laminate top, wood edgeband, metal base, and adjustable leveling glides, 42"W x 36"D x 29"H **Laminate:** TBD **Edge Style:** Maple Edge **Edge Finish:** TBD **Leg Finish:** TBD	1,048.00	$ 1,048.00
F20	2	TXBC48L2029	TMC X-Base Table with laminate top, wood edgeband, metal base, and adjustable leveling glides, 48"DIA x 29"H **Laminate:** TBD **Edge Style:** Maple Edge **Edge Finish:** TBD **Leg Finish:** TBD	1,076.00	$ 2,152.00

F21	7	TA 1004/W	**Option 1** True Design Tao 4-Leg Chair with wood back, wood seat, and metal frame, 22"W x 21"D x 30"H with 19"H seat **Wood:** Walnut **Wood Finish:** TBD **Frame Finish:** TBD	773.00	$ 5,411.00
			or		
F21	7	1011 FT1 A0 PS SC21 GL2 FC2 AC	**Option 2** SitOnIt Lumin Four Leg Chair with plastic shell, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Frame Finish:** TBD	185.00	
			and		
F22	8	FD 4090	**Option 1** True Design Fender Mini Lounge Chair with upholstered seat, back, and arms, and 4-leg metal base, 23 1/2"W x 23 1/2"D x 30"H with 17 1/2"H seat **Fabric:** TBD Grade F **Base Finish:** TBD	1,161.00	$ 9,288.00
			or		
F22	15	FD 4090	**Option 2** True Design Fender Mini Lounge Chair with upholstered seat, back, and arms, and 4-leg metal base, 23 1/2"W x 23 1/2"D x 30"H with 17 1/2"H seat **Fabric:** TBD Grade F **Base Finish:** TBD	1,161.00	
			Multi-Purpose Room 113		
F23	9	MF-603029-NEST-FIXT-LAM-CAS	3branch Fixed Height Maker Flex Nesting Table wth laminate top, PVC edge, metal base, and locking casters, 60"W x 30"D x 29"H **Laminate:** TBD **Edge Finish:** TBD **Base Finish:** TBD	1,635.00	$ 14,715.00

F24	36	SNSA11318AR	TMC Enshell Adult chair with arc shaped wooden shell, forbo marmoleum shell face, powdercoated metal sled base, and nylon glides, 19 1/2"W x 21"D x 33 1/2"H with 18"H seat **Wood:** Maple **Wood Finish:** Clear **Forbo Marmoleum:** TBD **Base Finish:** TBD	496.00	$ 17,856.00
	6	CHAIR DOLLY	TMC Chair Dolly with 3" rubber casters, 26"W x 26 1/2"D x 6"H **Finish:** Black	914.00	$ 5,484.00
			or		
F24	36	1011 FT1 A0 PS SC21 GL2 FC2 AC	SitOnIt Lumin Four Leg Chair with plastic shell, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Frame Finish:** TBD	185.00	
	5	CHAIR DOLLY	SitOnIt Chair Dolly **Finish:** Black	243.00	
			Maker Space 114		
F25	3	MF-6030-NEST-ADJT-LAM-CAS	3branch Height Adjustable Maker Flex Nesting Table wth laminate top, PVC edge, hand-crank height adjustability, metal base, and locking casters, 60"W x 30"D x 27"-41"H **Laminate:** TBD **Edge Finish:** TBD **Base Finish:** TBD	2,029.00	$ 6,087.00
F26	12	SNSA11318AR	**Option 1** TMC Enshell Adult chair with arc shaped wooden shell, forbo marmoleum shell face, powdercoated metal sled base, and nylon glides, 19 1/2"W x 21"D x 33 1/2"H with 18"H seat **Wood:** Maple **Wood Finish:** Clear **Forbo Marmoleum:** TBD **Base Finish:** TBD	496.00	$ 5,952.00
			or		

F26	12	1011 FT1 A0 PS SC21 GL2 FC2 AC	**Option 2** SitOnIt Lumin Four Leg Chair with plastic shell, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Frame Finish:** TBD	185.00	
			Staff Break Room 118		
F27	2	SK-4242-LAM	3branch Skware Study Table with laminate top, PVC edge, and metal base, 42"W x 42"D x 30"H **Laminate**: TBD **Edge Finish:** TBD **Base Finish:** TBD	2,376.00	$ 4,752.00
F28	8	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 1,984.00
			Office 119		
F29	1		DeskMakers Hover Desk with modesty panel and height adjustable base, Mobile Box-File Pedestal, Overhead Hanging (4) Door Wall Cabinet, and (4) Door Credenza. Includes SitOnIt Mobio dual monitor arm	4,540.00	$ 4,540.00
F30	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00

F31	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Office 120		
F32	1		DeskMakers Hover Desk with modesty panel and height adjustable base, Mobile Box-File Pedestal, Overhead Hanging (4) Door Wall Cabinet, and (4) Door Credenza. Includes SitOnIt Mobio dual monitor arm	4,540.00	$ 4,540.00
F33	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00
F34	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Staff Workstations 121		
F35	1		DeskMakers U-Shape Left Workstation with modesty panels and height adjustable base, Single Pedestal Lateral File Credenza, Mobile Box-File Pedestal, and Overhead Hanging (4) Door Wall Cabinet. Includes SitOnIt Mobio dual monitor arm	4,903.00	$ 4,903.00

F36	1		DeskMakers U-Shape Right Workstation with modesty panels and height adjustable base, Single Pedestal Lateral File Credenza, Mobile Box-File Pedestal, and Overhead Hanging (4) Door Wall Cabinet. Includes SitOnIt Mobio dual monitor arm	4,903.00	$ 4,903.00
F37	2	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 1,060.00
			Work Room 122		
F38	2	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 1,060.00
			Librarian Office 123		
F39	1		DeskMakers U-Shape Workstation with modesty panels and height adjustable base, Mobile Box-File Pedestal, Overhead Hanging (4) Door Wall Cabinet, and Dual Lateral File Bookcase Storage. Includes SitOnIt Mobio dual monitor arm	7,145.00	$ 7,145.00

F40	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00
F41	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Meeting Space 125		
F42	1	SK-4242-LAM	3branch Skware Study Table with laminate top, PVC edge, and metal base, 72"W x 42"D x 30"H **Laminate**: TBD **Edge Finish:** TBD **Base Finish:** TBD	3,038.00	$ 3,038.00
F43	6	TA 1004/W	True Design Tao 4-Leg Chair with wood back, wood seat, and metal frame, 22"W x 21"D x 30"H with 19"H seat **Wood:** Walnut **Wood Finish:** TBD **Frame Finish:** TBD	773.00	$ 4,638.00
			or		
F43	6	LI 1004	**Option 2** True Design Lisa 4-Leg XL Chair with wood back, wood seat, and wood legs, 23.6"W x 18.7"D x 30.7"H with 17.7"H seat **Wood:** Ashwood, Oakwood, or Dark Oakwood **Wood Finish:** TBD	898.00	
			or	-	

F43	6	PER S S	**Option 3** Worden Peer Sled Base Chair with wood back, wood seat and wood frame, 22"W x 22"D x 32"H with 18"H seat Wood: Birch Wood Finish: TBD	758.00	
			Meeting Space 127		
F44	1	SK-4242-LAM	3branch Skware Study Table with laminate top, PVC edge, and metal base, 72"W x 42"D x 30"H **Laminate**: TBD **Edge Finish:** TBD **Base Finish:** TBD	3,038.00	$ 3,038.00
F45	5	TA 1004/W	**Option 1** True Design Tao 4-Leg Chair with wood back, wood seat, and metal frame, 22"W x 21"D x 30"H with 19"H seat **Wood:** Walnut **Wood Finish:** TBD **Frame Finish:** TBD	773.00	$ 3,865.00
			or		
F45	5	LI 1004	**Option 2** True Design Lisa 4-Leg XL Chair with wood back, wood seat, and wood legs, 23.6"W x 18.7"D x 30.7"H with 17.7"H seat **Wood:** Ashwood, Oakwood, or Dark Oakwood **Wood Finish:** TBD	898.00	
			or		
F45	5	PER S S	**Option 3** Worden Peer Sled Base Chair with wood back, wood seat and wood frame, 22"W x 22"D x 32"H with 18"H seat Wood: Birch Wood Finish: TBD	758.00	
			Passport Room 128		
F46	1		DeskMakers Hover Desk with modesty panel and height adjustable base, Mobile Box-File Pedestal, and (2) Drawer Lateral File Cabinet. Includes SitOnIt Mobio dual monitor arm	3,073.00	$ 3,073.00

F47	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00
F48	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Teen Room 130		
F49	8	5720L	**Option 1** Bernhardt Mitt Lounge Chair with upholstered seat and back, loop master stitching, weight activated casters, and handle, 33 1/2"W x 33 1/2"D x 32"H with 16 1/2"H seat **Fabric (Back):** TBD Grade 5 **Fabric (Seat):** TBD Grade 5	2,360.00	$ 18,880.00
			or		
F49	8	INS3627-27	**Option 2** JSI Indie Low Lounge with wood base, 27"W x 36"D x 27"H with 14-1/2"H seat **Wood:** Maple **Fabric:** TBD Grade E	1,362.00	
			or		
F49	8	F122	**Option 3** Fomcore Media Chair, 20"W x 32-1/2"D x 47"H **Fabric:** TBD Grade 2	1,157.00	
F50	1	INP4848-12TRP	**Option 2** JSI Indie Triangle Pouf, 48"W x 48"D x 12"H Fabric: TBD Grade E	1,618.00	
			or		

F51	1	5851L	**Option 1** Bernhardt Apel Ottoman with upholstered seat and loop master stitching, 41 1/4"DIA x 16 1/2"H seat **Fabric:** TBD Grade 5	1,654.00	$ 1,654.00
F52	2	INT1919-14RD	JSI Indie Round Lounge Table with wood veneer top and solid wood legs, 19"DIA x 13 3/4"H **Wood Finish:** TBD **Leg Finish:** TBD	720.00	$ 1,440.00
F53	1		Custom TV Console with cabinets and open front, 96"W x 20"D x 30"H Included as an option. Unclear if this is included in the GC scope or not. **Wood:** TBD **Wood Finish:** TBD	4,208.00	$ 4,208.00
			Children's Librarian Office 131		
F54	1		DeskMakers Hover Desk with modesty panel and height adjustable base, Mobile Box-File Pedestal, and Double-Wide Lateral File Cabinet. Includes SitOnIt Mobio dual monitor arm	3,283.00	$ 3,283.00
F55	1	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 530.00
F56	2	1011 FT1 A147 US SC8 FG1 GL2 FC2 AB	SitOnIt Lumin Four Leg Chair with plastic shell, upholstered seat, fixed arms, metal frame and performance multi-surface glides, 27"W x 22"D x 33"H with 17 1/2"H seat **Shell Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Frame Finish:** TBD	248.00	$ 496.00
			Work Room 132		

F56	2	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 1,060.00
			Children's Library 134		
F57	1		Custom book display cube with laminate frame and edge, 19 11/16"W x 19 11/16"D x 17"H **Laminate:** TBD	743.00	$ 743.00
F57	1		Custom book display cube with laminate frame and edge, 19 11/16"W x 19 11/16"D x 24 1/4"H **Laminate:** TBD	1,026.00	$ 1,026.00
F57	1		Custom book display cube with laminate frame and edge, 19 11/16"W x 19 11/16"D x 32"H **Laminate:** TBD	1,296.00	$ 1,296.00
F58	2	1123 BK2 Y/e3 AR6 FG1 CS6 CH1 MB BT1 BC4 MC6 FC13 YCC03 LA5 AB	SitOnIt Focus 2.0 Highback Task Chair with plastic frame, mesh back, height and width adjustable arms, enhanced synchro with seat depth adjustment mechanism, standard cylinder, 5-star nylon base, and hard floor and carpet casters, 28 1/2"W x 28"D x 36 1/4"-39 3/4"H with 17"-20 1/2"H seat **Frame Finish:** TBD **Mesh (Back):** TBD **Y-Support Finish:** TBD **Y-Support Accent Finish:** TBD **Fabric (Seat):** TBD Grade 1 **Base Finish:** TBD	530.00	$ 1,060.00
F59	2	FK007-CART2	Fomcore Lily Cart with metal frame and casters, 20"DIA x 37"H	276.00	$ 552.00
F59	20	FK007-18x3-Z	Fomcore Lily Pad with upholstered seat and solid foam core, 18"DIA x 3"H **Fabric (Seat):** TBD Grade 2 **Fabric (Side):** TBD Grade 2	148.00	$ 2,960.00

F60	1	MPDL306540C	TMC Leaf Sprout Display with wood frame, wood shelves, exposed plywood edge, and locking casters, 30 7/8"W x 34 1/2"D x 68 1/2"H **Wood:** Birch **Wood Finish:** TBD **Shelf Finish:** TBD	3,402.00	$ 3,402.00
F61	3	MFC-6030-ADJT-LAM-CAS	**Option 1** 3branch Height Adjustable Maker Flex Kids Nesting Table wth laminate top, PVC edge, metal base, and locking casters, 60"W x 30"D x 24 - 34"H **Laminate:** TBD **Edge Finish:** TBD **Base Finish:** TBD	2,029.00	$ 6,087.00
			or		
F61	3	TLF4148LL40P24	**Option 2** TMC Small Leaf Table with laminate top, exposed plywood edge, plover legs, and adjustable leveling glides, 41"W x 48"D x 24"H **Wood:** Birch **Laminate 1**: TBD **Laminate 2:** TBD **Edge Finish:** Clear **Leg Finish:** TBD	1,305.00	
F62	12	SVIC11314X	**Option 1** TMC Vireo Child Chair with plywood shell, solid wood legs, and nylon glides, 14 1/2"W x 16"D x 27 1/2"H with 14"H seat **Wood:** Maple **Shell Finish:** TBD **Leg Finish:** TBD	395.00	$ 4,740.00
			or		
F62	12	SPL1171440	**Option 2** TMC Plover Child Stool with wood seat, wood legs, and nylon glides, 14"W x 14"D x 14"H seat **Wood:** Maple **Seat Finish:** TBD **Leg Finish:** TBD	485.00	

F63	2	TC42L20K26	TMC Kestrel Table with laminate top, wood edgeband, and solid wood legs, 42" DIA x 26"H **Wood:** Maple **Laminate:** TBD **Edge Style:** Maple Edge **Edge Finish:** TBD **Leg Finish**: TBD	1,106.00	$ 2,212.00
F64	8	SKEC11316	**Option 1** TMC Kestrel Child Chair with plywood shell, solid wood legs, and nylon glides, 14-1/2"W x 17"D x 28"H with 16"H seat **Wood:** Maple **Shell Finish:** TBD **Leg Finish:** TBD	414.00	$ 3,312.00
			or		
F64	8	SVIC11316	**Option 2** TMC Vireo Child Chair with plywood shell, solid wood legs, and nylon glides, 14 1/2"W x 17"D x 27 13/4"H with 16"H seat **Wood:** Maple **Shell Finish:** TBD **Leg Finish:** TBD	414.00	
F65	8	SKEC12214	TMC Kestrel Child Task Chair, with plywood shell, five-star base, height adjustable cylinder, and casters, 26 1/2"W x 25 1/2"D x 29"-34"H with 15"-20"H seat **Wood:** Maple **Shell Finish:** TBD **Base Finish:** Black	442.00	$ 3,536.00
F66	4	SWHO2274415	TMC Whistler Round Child Ottoman with plywood frame, upholstered seat, and tapered solid wood legs, 44" DIA x 15"H seat **Fabric:** TBD **Leg Finish:** TBD	1,735.00	$ 6,940.00
F67	20	SWIF11115WT	**Option 1** TMC Whistler Inner Wedge 15-degree Child Modular Lounge Seat with upholstered seat and back, wood frame, tapered solid wood leg, and nylon glides, 26 1/2"W x 31 1/2"D x 32"H with 15"H seat **Fabric (Back):** TBD **Fabric (Seat):** TBD **Leg Finish:** TBD	1,542.00	$ 30,840.00
			or		

F67	3		**Option 2** Custom Curved Bench **Fabric:** TBD	10,800.00	
F68	4	3770	**Option 1** Arcadia Leaflette Children's Lounge Chair with upholstered seat and back and wood legs, 28 1/4"W x 21 1/2"D x 24 3/4"H with 15"H seat **Wood:** Beech **Fabric (Back):** TBD Grade 2 **Fabric (Seat):** TBD Grade 2 **Leg Finish:** TBD	1,141.00	$ 4,564.00
			or		
F68	2	SLB2405617	**Option 2** TMC Lake Lounge, 56-1/2"W x 30-1/4"D x 27"H with 17"H seat Fabric: TBD Grade D	2,576.00	
F69	16	3780	**Option 1** Arcadia Leaf Buds Children's Bench with upholstered seat and plinth base, 22 1/4"W x 17 1/4"D x 15"H seat **Fabric:** TBD Grade 2 **Base Finish:** Black	739.00	$ 11,824.00
			or		
F69	1	FK032	**Option 2** Fomcore Campfire Combo with 1 campfire, 6 logs, and 3 mats	3,252.00	
			or		
F69	1	SPD22614	**Option 3** TMC Deep Puddle, 35"W x 20-1/4"D x 14"H **Fabric:** TBD Grade D	902.00	
F69	5	SPN22616	**Option 3** TMC Dune Puddle, 28"W x 24"D x 16"H **Fabric:** TBD Grade D	878.00	
F70	8	5720L	**Option 1** Bernhardt Mitt Lounge Chair with upholstered seat and back, loop master stitching, weight activated casters, and handle, 33 1/2"W x 33 1/2"D x 32"H with 16 1/2"H seat **Fabric (Back):** TBD Grade 5 **Fabric (Seat):** TBD Grade 5	2,360.00	$ 18,880.00
			or		
F70	8	SSP22616	**Option 2** TMC Swivel Puddle, 26-3/4"W x 26-3/4"D x 35-1/4"H with 16"H seat **Fabric:** TBD Grade D	2,392.00	

F71	2	MFC-6030-ADJT-LAM-CAS	3branch Height Adjustable Maker Flex Kids Nesting Table wth laminate top, PVC edge, metal base, and locking casters, 60"W x 30"D x 24 - 34"H **Laminate:** TBD **Edge Finish:** TBD **Base Finish:** TBD	2,029.00	$ 4,058.00
			or		
F71	2	TR3060L20K26	TMC Kestrel Table with laminate top, wood edgeband, and solid wood legs, 60"W x 30"D x 26"H **Wood:** Maple **Laminate:** TBD **Edge Style:** Maple Edge **Edge Finish:** TBD **Leg Finish**: TBD	1,217.00	
F72	8	SKEC11316	**Option 1** TMC Kestrel Child Chair with plywood shell, solid wood legs, and nylon glides, 14 1/2"W x 16"D x 27 1/2"H with 16"H seat **Wood:** Maple **Shell Finish:** TBD **Leg Finish:** TBD	414.00	$ 3,312.00
			or		
F72	8	SVIC11316	**Option 2** TMC Vireo Child Chair with plywood shell, solid wood legs, and nylon glides, 14 1/2"W x 16"D x 27 1/2"H with 16"H seat **Wood:** Maple **Shell Finish:** TBD **Leg Finish:** TBD	414.00	
			Staff Hall 137		
F73	3		DeskMakers (2) Drawer Lateral File Cabinet	773.00	$ 2,319.00
			Children's Outdoor Courtyard		
F74	4	KD-AD-CG	Loll Designs Children's Adirondack Lounge Chair with plastic back, seat, arms, and base, 14 1/4"W x 25 1/4"D x 22 3/4"H **Color:** Charcoal Grey	507.00	$ 2,028.00
F75	4	KD-LL-LG	Loll Designs Children's Lollygagger Lounge Chair with plastic back, seat, arms, and base, 21 1/4"W x 20 3/4"D x 20 1/2"H **Color:** Leaf Green	601.00	$ 2,404.00

F76	18	FW004-24x21x18-L1	Fomcore Honeycomb Weather Resistant Ottoman with upholstered seat, wood base, and plastic feet, 21"W x 24"D x 18"H **Fabric (Seat):** TBD Grade 1 **Fabric (Side):** TBD Grade 1 **Foot Finish:** Black	838.00	$ 15,084.00
F77	5	FW005-36x18-L1	Fomcore Weather Resistant Round Ottoman with upholstered seat, wood base, and plastic feet, 36"DIA x 18"H **Fabric (Seat):** TBD Grade 1 **Fabric (Side):** TBD Grade 1 **Foot Finish:** Black	1,618.00	$ 8,090.00
F78	10	FW005-18x18-L1	Fomcore Weather Resistant Round Ottoman with upholstered seat, wood base, and plastic feet, 18"DIA x 18"H **Fabric (Seat):** TBD Grade 1 **Fabric (Side):** TBD Grade 1 **Foot Finish:** Black	411.00	$ 4,110.00

NOTES:

Fabrics and finishes are standard unless otherwise noted.

			COST OF MATERIAL	$	393,068.00
			LABOR	$	26,325.00
			SUBTOTAL	$	419,393.00
			8.750% TAX	$	36,696.89
			FREIGHT	$	34,009.00
			TOTAL	**$**	**490,098.89**

1. This quotation is subject to change unless accepted within 30 days from the above date.
2. Shipping dates are approximate and are based upon receipt of all necessary information.
3. Prices quoted do not include direct taxes imposed by Federal, State or Municipal authorities unless stated.
4. A service charge of 1½% per month (18% annum) will be charged on all past due accounts.
5. If paying with credit card, add 3.75% to total.

Parker Braverman

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