

Lake Metroparks
Lakefront Lodge
Interior Renovation
Bid No. 2026-042



Lake County Probate Judge
Mark J. Bartolotta

Lake Metroparks Board of Park Commissioners
Gretchen Skok DiSanto
Frank J. Polivka
John C. Redmond, CPA

Executive Director
Paul Palagyi

August 13, 2026

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*** Bid Form must be purchased through SE Blueprint, Inc. 2035 Hamilton Avenue, Cleveland, Ohio 44114 (216) 241-2250 or www.seblueprint.com.**

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INVITATION TO BID - LEGAL NOTICE

Sealed bids will be received at Lake Metroparks Administrative Offices, 11211 Spear Road, Concord Township, Ohio 44077 until **2:00 P.M.** local time, on **September 8, 2026** and thereafter will be publicly opened, read and recorded for the following:

NAME OF PROJECT: Lakefront Lodge Interior Renovation

BID NUMBER: 2026-042

PRE-BID MEETING: September 1, 2026 at 1:00 P.M. (30525 Lake Shore Boulevard, Willowick, Ohio 44095)

All documents, specifications, plans, etc., can be VIEWED AND PURCHASED at www.seblueprint.com. Copies may be PURCHASED for \$30.00 (Thirty Dollars), (non-refundable fee) through SE Blueprint, Inc., 2035 Hamilton Avenue, Cleveland, Ohio 44114, (216) 241-2250. A \$15 shipping/delivery fee is applicable for each set of Bidding Documents. Documents may also be REVIEWED, at Lake Metroparks Administrative Offices, 11211 Spear Road, Concord Township, Ohio 44077 or at www.lakemetroparks.com, click on "About Us".

Project has been determined to meet the prevailing wage threshold.

Each bid (*\$75,000 or greater*) shall be accompanied by a Bid Guarantee in the form of either:

1. A certified check or cashier's check (Bid Check) made payable to "Lake Metroparks", in an amount equal to 10% of the bid amount conditioned to provide that if the bid is accepted the bidder will enter into a proper contract for the work; or
2. A Bid Guarantee and Performance Bond, for the full amount of the bid as provided in Section 153.571 of the Ohio Revised Code. A form of this bond is included in the Bidding Documents.

Bids must be submitted in sealed envelopes and clearly marked with the Bid No. and Project Title. No bid may be withdrawn before sixty (60) days have elapsed after the Bid Opening Date. This bond shall be written on an acceptable surety company authorized to do business in the State of Ohio and in an amount equal to 100% of the contract price. Bid guarantees of all unsuccessful bidders will be held until a proper contract is entered into or until all bids are rejected, as the case may be, and will be returned immediately thereafter. The successful bidder shall be required to file, at the time a contract is entered into, a Performance Bond and Labor and Material Payment Bond.

The Board intends to award a contract to the lowest and best bidder whose bid is submitted in accordance with the requirements of these bidding documents and does not exceed the funds available for the Project. The Board reserves the right to accept separate bids on various items of work, or to accept any combination of bids, or to reject any or all bids, and to waive any technical deficiencies or irregularities in bids.

BY THE ORDER OF **Lake Metroparks Board of Park Commissioners**
 Paul Palagyi, Executive Director

Published: News-Herald, SE Blueprint and www.lakemetroparks.com on **August 13, 2026**.

INSTRUCTION TO BIDDERS

1. Bidding Documents

1.1 Copies of the Contract Documents, including any Drawings and Specifications, may be obtained for bidding purposes upon the conditions set forth in the Invitation to Bid.

1.2 Persons or entities other than the bidder may view the Contract Documents at locations stated in the Invitation to Bid or at the office of the bidder. Persons or entities desiring additional information shall request such information from the bidder who shall then make a written request on its own letterhead to the Board for the additional information. The requesting person or entity shall bear the costs of printing and handling or any other cost arising from production of the requested information and shall be billed for printing costs directly by the printing company.

1.3 The bidder shall be responsible for advising any suppliers, subcontractors or sub-subcontractors of any alternates or changes to the Drawings and Specifications that may be issued as Addenda, and the Board assumes no responsibility for any bidder's failure to do so. The Board assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

1.4 All prices and notations must be in ink or typewritten. Mistakes may be crossed out and corrections typed or printed adjacent to the mistake and initialed in ink by the person who signs bid. Prices shall be stated in units and quotations made separately on each item. In case of conflict, unit prices will govern. Where there is a conflict between words and figures, words will govern.

1.5 Bidders who have received this document from an outside source, not the Issuing Office (Lake Metroparks Planning Department), or obtained the documents from the Lake Metroparks website, should immediately contact the Issuing Office and provide their name, mailing address, email address, phone/fax number in order to be placed on the BIDDERS LIST. Bidders who fail to notify the Issuing Office with this information assume complete responsibility in the event that they do not receive communications from the Issuing Office prior to the closing date.

2. Bid Form

2.1 Bids must be made on the documents furnished in the Bid Documents. Each bid must contain the full name of all persons or entities submitting the bid and any parties-in-interest to such persons or entities.

2.2 Bids made by unincorporated entities or partnerships must set forth the name and place of residence or each principal or partner thereof, respectively.

2.3 Bids made by corporations must indicate the state of incorporation and the names and titles of officers having authority to sign the bid and Contract on behalf of the corporation. A copy of the corporate resolution authorizing those officers' signatures of the bid and Contract must be attached to the bid.

2.4 Proposals shall be addressed and sent to the address stated in the Invitation to Bid. Before the Board may consider any proposal, the Board must receive the proposal on or before the date and hour set for opening the bids. Conditions, limitations or provisions other than those expressly called for by any bidding document inserted as part of the proposal may cause the bid to be rejected by the Board.

2.5 Alterations of any Contract Document by erasure or interlineations must be explained or noted in such Contract Document over signature of bidder.

3. General Requirements

3.1 Bidders may bid on any or all parts of the Work and on any alternate described in the Contract Documents. Bidders may bid on any combination of contracts to be let in connection with the Project provided that the bidder must be engaged in the type of work for which the bid is submitted.

3.2 The Board reserves the right to accept bids in the combinations shown on the bid form, or to reject any or all bids, and to waive any technical deficiencies or irregularities in bids.

3.3. No contract will be awarded to any bidder who is in arrears to the Board for any debt or contractual obligation or who is in default as a surety or otherwise on any obligation owed to the Board.

3.4. Oral, telephonic or telegraphic bids are invalid and will not receive consideration.

3.5 The bidder shall submit a properly executed statement regarding personal property taxes in accordance with the enclosed statement entitled "Personal Property Tax Delinquency."

3.6 The Bidder (Prime Contractor) shall supply a minimum of 15% of the total labor force required to complete this Project, exclusive of supervisory and administrative personnel.

4. Bonds or Guaranties

(Note - Bid Guarantee and Performance Bond are only required on Bids/Proposals in excess of \$75,000)

4.1 A Bid Guarantee in the amount and manner prescribed in the Invitation to Bid shall accompany each bid.

4.2 The bidder shall furnish a Performance Bond and Labor and Material Payment Bond in the manner and amount prescribed in the Invitation to Bid.

4.3. The Board reserves the right to retain the Bid Guarantees of all bidders for a period of sixty (60) days after the bids are opened and read. During this sixty-day period, no bid may be withdrawn without the Board's permission or as otherwise provided by law. Bidders to whom contracts are awarded shall execute the contracts within (5) five days from the date of these bidders' receipt of notice of the contract award. Bidders whose Bid Guarantees are in a form other than the form set forth in section 153.571 of the Ohio Revised Code shall provide sureties in conjunction with execution of the contracts. Failure of any bidder to execute a contract or provide sureties within the time specified will be deemed an abandonment of the contract, will result in forfeiture by the bidder of its Bid Guarantee.

5. Examination of Drawings, Specifications and Work Site

5.1 Prior to submitting a bid, each bidder shall carefully examine the Drawings, Specifications and all other Contract Documents as well as visit the site of the Work to fully apprise itself of all conditions and limitations under which the Work will be performed. The bid shall reflect the costs of all items necessary to perform the Work. No allowances will be made to any bidder because of a lack of examination of the Contract Documents or inspection of the Work Site, and upon submission of the bid, the bidder shall be deemed to have made such examination and inspection.

6. Statement of Bidder's Qualifications

6.1 Each bidder shall complete and submit the enclosed "STATEMENT OF BIDDER'S QUALIFICATIONS".

7. Disclosures

7.1 The bidder to whom the Contract is awarded shall within seven (7) calendar days of notification of such award submit in writing to the Board the following information:

- (a) the nature and extent of Work to be performed by the bidder's own employees and forces;
- (b) the names of suppliers of principal items, systems, materials or equipment proposed to be used for the Work as well as the names and descriptions of such items, systems, materials or equipment; and
- (c) the names of any Subcontractors and Sub-subcontractors proposed to be used for any part of the Work.

7.2 Bidders shall establish to the satisfaction of the Board the reliability and capability of any proposed Subcontractors, Sub-subcontractor or supplier.

7.3 Persons or entities proposed by bidders to be Subcontractors, Sub-subcontractors or suppliers must perform the Work for which they were initially proposed and shall not be removed or replaced without prior written consent of the Board.

7.4 The qualifications of all subcontractors must be included in the bid package as noted in the detailed specifications.

8. Working Hours

8.1 Bids shall be based on the assumption that the Work will be performed on an eight (8) hour day, five (5) days a week basis. Any overtime expenses necessary to meet the construction schedule shall be borne by the contractor.

9. Administration of the Contract and Any Other Prime Contracts Relating to the Project

9.1 The Bidder awarded the General Trades Contract shall be the Contract Administrator and as such shall schedule and coordinate the work performed under its contract as well as any work performed under any other prime contracts relating to the Project. The Contract Administrator shall include in its bid all costs involved in the scheduling and coordination of such work, including but not limited to costs attributable to compiling progress reports.

9.2 The Contract Administrator shall schedule, coordinate and direct all phases of construction to ensure timely completion of the Project. All prime contractors and Subcontractors shall cooperate with the Contract Administrator in preparing the work schedule and maintaining construction progress in accordance with the schedule. They shall also provide requested information to the Contract Administrator on a monthly basis to assist the Contract Administrator in performing its responsibilities as such. Failure of any prime contractor or any Subcontractor to cooperate with the Contract Administrator shall be deemed by the Board to be a breach of contract by the party failing to so cooperate.

9.3 The Board shall not certify monthly payments for any prime contractor until it receives from the Contract Administrator certification that such prime contractor's work progress is satisfactory and that the prime contractor is completing its work according to the schedule prepared by the Contract Administrator.

9.4 Progress meetings shall occur on the same day and hour each week for the duration of the Project, or as otherwise agreed to by the Board, prime contractors and subcontractors. The Board shall distribute accurate minutes of these meetings to all prime contractors. Decisions reached at such meetings shall be binding upon all parties involved in the Project.

9.5 The Contract Administrator shall prepare and submit to the Board a progress schedule for the Project. Upon the Board's approval of the schedule, the Contract Administrator shall furnish four (4) copies to the Board. The schedule shall be revised monthly or as otherwise necessary to ensure timely completion of the Project. The schedule and all revisions thereof, as approved by the Board, shall be binding upon all parties involved in the Project.

9.6 The Contract Administrator shall coordinate the distribution of all Drawings for the Project. A copy of such Drawings shall be kept at the job site at all times.

10. Wage Rates

10.1 Any bidder awarded the Contract shall comply with the Wage Rate Requirements as described in Section 6 in Supplemental Instructions to Bidders in this this Document and ARTICLE 12 of the BOARD-CONTRACTOR AGREEMENT.

11. Discrimination

11.1 Any bidder awarded the Contract shall comply with ARTICLE 20 of the BOARD-CONTRACTOR AGREEMENT.

End of Instructions to Bidders

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

1. Questions about the Project

1.1 All questions concerning the Project shall be referred to:

Lake Metroparks Representative:

Tim Lane
Park Planner
(440) 639-7275 ext. 1608
tlane@lakemetroparks.com

2. Pre-bid Conference

2.1 There will be a pre-bid conference for this project on the dates(s) listed below.
Attendance is recommended.

<u>Date</u>	<u>Location</u>	<u>Time</u>
September 1, 2026	30525 Lake Shore Boulevard, Willowick, Ohio 44095	1:00 P.M.

3. Proposed Schedule for Project Completion

3.1 This schedule reflects the anticipated time required to complete the work defined in the specifications and shown on the drawings. Bidders are requested to submit with their bid, their proposed schedule for completion of the work described.

Advertised Public Bidding	August 13, 2026
Pre-Bid Conference	September 1, 2026
Bid Opening	September 8, 2026
Award of Bid by Board	September 16, 2026
Authorization to Proceed and Contracts	September 23, 2026
Construction to Commence	October 1, 2026
Substantial Completion	November 31, 2026
Punch List Completion	December 8, 2026
Occupancy by Lake Metroparks and Final Completion	December 11, 2026

The work shall commence no later than five (5) days after the Contractor's receipt of written notice to commence work, and, subject to authorized adjustments

4. Time of Completion

4.1 **Substantial Completion**, as defined in Paragraph 4.3 & 4.5 of Board –Contractor Agreement, shall be achieved not later than the date of November 31, 2026, but not later than the **Final Completion Date** of December 11, 2026.

5. Estimate of Cost

5.1 The following is an estimated range of cost for completing the project:

BASE BID TOTAL RANGE: \$92,300.00

6. Prevailing Wage Threshold Levels

6.1 Under guidelines established by AM Sub. H.B.350, if the Contract Sum under this Agreement exceeds the dollar thresholds established by the *Ohio Department of Employment Services - Wage and Hour Division*, the contractor(s) are required to conform to the prevailing wage rates as established by the Ohio Industrial Relations Board. Thresholds are to be adjusted biennially (every two years) by the Director of Ohio Department of Commerce.

Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census.

6.2 Threshold Levels

“New” construction threshold for *Building Construction* – **\$250,000**

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for *Building Construction* – **\$75,000**

As of January 1, 2026:

“New” construction that involves *roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction* threshold level has been adjusted to – **\$101,201**

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves *roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction* threshold level has been adjusted to – **\$30,320**

6.3 The Prevailing Wage Determination Schedule for this project is available for review at the office of the Owner’s Prevailing Wage Coordinator, or for the complete Prevailing Wage information packet please contact:

Ohio Department of Commerce
Division of Industrial Compliance and Labor
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2239

www.com.ohio.gov/laws/

6.4 Current prevailing wage rates are available through the Ohio Department of Commerce at the following link:

<http://www.com.ohio.gov/dico/>

Prevailing Wage Determination Cover Letter

County: LAKE
Determination Date: August 13, 2026
Expiration Date: November 13, 2026

THE FOLLOWING PAGES ARE PREVAILING RATES OF WAGES ON PUBLIC IMPROVEMENTS FAIRLY ESTIMATED TO BE MORE THAN THE AMOUNT IN O.R.C. SEC. 4115.03 (b) (1) or (2), AS APPLICABLE.

Section 4115.05 provides, in part: "Where contracts are not awarded or construction undertaken within ninety days from the date of the establishment of the prevailing wages, there shall be a redetermination of the prevailing rate of wages before the contract is awarded." The expiration date of this wage schedule is listed above for your convenience only. This wage determination is not intended as a blanket determination to be used for all projects during this period without prior approval of this Department.

Section 4115.04, Ohio Revised Code provides, in part: "Such schedule of wages shall be attached to and made a part of the specifications for the work, and shall be printed on the bidding blanks where the work is done by contract..."

The contract between the letting authority and the successful bidder shall contain a statement requiring that mechanics and laborers be paid a prevailing rate of wage as required in Section 4115.06, Ohio Revised Code. The contractor or subcontractor is required to file with the contracting public authority upon completion of the project and prior to final payment therefore an affidavit stating that he has fully complied with Chapter 4115 of the Ohio Revised Code.

The wage rates contained in this schedule are the "Prevailing Wages" as defined by Section 4115.03, Ohio Revised Code (the basic hourly rates plus certain fringe benefits). These rates and fringes shall be a minimum to be paid under a contract regulated by Chapter 4115 of the Ohio Revised Code by contractors and subcontractors. The prevailing wage rates contained in this schedule include the effective dates and wage rates currently on file. In cases where future effective dates are not included in this schedule, modifications to the wage schedule will be furnished to the Prevailing Wage Coordinator appointed by the public authority as soon as prevailing wage rates increases are received by this office.

"There shall be posted in a prominent and accessible place on the site of work a legible statement of the Schedule of Wage Rates specified in the contract to the various classifications of laborers, workmen, and mechanics employed, said statement to remain posted during the life of such contract." Section 4115.07, Ohio Revised Code.

Apprentices will be permitted to work only under a bona fide apprenticeship program if such program exists and if such program is registered with the Ohio Apprenticeship Council.

Section 4115.071 provides that no later than ten days before the first payment of wages is due to any employee of any contractor or subcontractor working on a contract regulated by Chapter 4115, Ohio Revised Code, the contracting public authority shall appoint one of his own employees to act as the prevailing wage coordinator for said contract. The duties of the prevailing wage coordinator are outlined in Section 4115.071 of the Ohio Revised Code.

Section 4115.05 provides for an escalator in the prevailing wage rate. Each time a new rate is established, that rate is required to be paid on all ongoing public improvement projects.

A further requirement of Section 4115.05 of the Ohio Revised Code is: "On the occasion of the first pay date under a contract, the contractor shall furnish each employee not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of Labor with individual written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage Coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed."

Work performed in connection with the installation of modular furniture may be subject to prevailing wage.

THIS PACKET IS NOT TO BE SEPARATED BUT IS TO REMAIN COMPLETE AS IT IS SUBMITTED TO YOU. (Reference guidelines and forms are included in this packet to be helpful in the compliance of the Prevailing Wage law.)

BID FORM

Bid Form documents can only be purchased from SE Blueprint, Inc.

SE Blueprint, Inc.
2035 Hamilton Avenue
Cleveland, Ohio 44114
seblue@seblueprint.com
(216) 241-2250 phone
(216) 241-2075 fax

Contents of Bid Form:

Price Sheet
Offer Sheet
Bidders Signature & Business Information
Request for Approved Equal
Affidavit of Non-Collusion
Affidavit of Delinquent Personal Property Tax Statement
Statement of Bidder's Qualifications & Experience
Bid Guarantee and Performance Bond
Checklist of Bid Proposal Forms

Contract Forms

The following forms shall be used during the contract:

LAKE METROPARKS BOARD-CONTRACTOR AGREEMENT

AIA DOCUMENT G702 AND G703, APPLICATION & CERTIFICATE FOR PAYMENT

AIA DOCUMENT G704, CERTIFICATE OF SUBSTANTIAL COMPLETION

AIA DOCUMENT G707, CONSENT OF SURETY COMPANY TO FINAL PAYMENT

OHIO LEGAL BLANK FORM 47, AFFIDAVIT OF ORIGINAL OR SUB-CONTRACTOR

OHIO LEGAL BLANK FORM 50 B, WAIVER OF LIEN

AFFIDAVIT OF PREVAILING WAGES



L A K E M E T R O P A R K S
B O A R D - C O N T R A C T O R A G R E E M E N T
11211 SPEAR ROAD, CONCORD TOWNSHIP, OHIO 44077
(440) 639-7275

CONTRACT INFORMATION

NAME OF CONTRACT: _____

LOCATION: _____

Bid No: _____

Bid Open: _____

Contract Amount: _____

P.O Number: _____

Board Approval: _____

Completion Date: _____

CONTRACTOR INFORMATION

BONDING / SURETY INFORMATION

Surety/Bond Company

MISCELLANEOUS INFORMATION

SIGNED CONTRACT RECEIVED	_____
PERFORMANCE BOND	_____
WORKER'S COMP. CERTIFICATE	_____
CERTIFICATE OF INSURANCE	_____

BOARD-CONTRACTOR AGREEMENT

THIS AGREEMENT (AKA the "CONTRACT") is made between Lake Metroparks Board of Park Commissioners (the "BOARD") of the State of Ohio and **CONTRACTOR**. (the "Contractor") of the State of Ohio. This Contract shall be effective on the last date set forth on the signature page.

Article 1

THE CONTRACT DOCUMENTS

1.1 The Contract Documents consist of the Instructions to Bidders, if any, the bid of the Contractor (Including his bid guarantee), if any, the Contractor's performance bond, this Contract and all schedules and exhibits attached hereto, the Drawings, if any, listed on Schedule A hereto by issue date and revision date, the Specifications (both general and technical) contained in the Project Manual, if any, and any Addenda issued prior to the Execution of this Contract and modifications issued after execution of this Contract (such as Change Orders and Field Orders for minor changes in the Work). These form the binding Contract Documents if required by all. Capitalized terms used herein shall be defined as stated in Article 2 hereof or elsewhere in the Contract Documents. In the event of any inconsistency between this Contract and any of the other Contract Documents, the provisions of this Contract shall control. The intent of the Contract Documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the Work and the terms and conditions of payment therefore. Work not covered in the Contract Documents will not be required unless it is consistent therewith and reasonably inferable there from as being necessary to produce the intended results. All of the Contract Documents form the total Contract, and all are as fully a part of the Contract as if attached hereto or repeated herein.

1.2 Nothing contained in the Contract Documents shall create any contractual relationship between the Board and any Subcontractor or Sub-subcontractor.

1.3 By executing this Contract, the Contractor represents that he has visited the site and familiarized itself with the local conditions under which the Work is to be performed.

Article 2

DEFINITIONS

2.1 The Project Manager will provide administration of the Contract and is an Authorized Agent of the Board. The Project Manager will have authority to act on behalf of the Board only to the extent provided in the Contract Documents.

2.2 Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site. A sub-subcontractor is a person or entity who has a direct contract with any Subcontractor to perform any of the Work at the site.

2.3 Instructions to bidders are instructions contained in the bidding requirements for preparing and submitting bids for the Work.

2.4 Specifications are written descriptions of a technical nature of materials, equipment construction systems, standards and workmanship.

2.5 Addenda are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda become part of the Contract Documents when the Contract is executed.

2.6 Samples are physical examples furnished by the Contractor for the Project Manager's review and approval, which illustrate materials, equipment or workmanship, and which establish standards by which the Work will be judged.

2.7 Product Data is information furnished by the Contractor for the Project Manager's review and approval regarding materials or products to be used in the Work and which establish standards by which the Work will be judged.

2.8 Work comprises the completed structures, products or services, or any combination thereof, required by the Contract Documents, and includes all labor necessary to produce such structures, products or services, and all materials and equipment incorporated or to be incorporated in such structures, products or services.

2.9 Drawings and Plans are documents showing in graphic or pictorial form the design, location and dimension of the elements of the Work.

2.10 Application for Payment is the Contractor's written request for payment of amount due for completed portions of the Work and, if provided herein, for materials delivered and suitably stored pending their incorporation into the Work.

2.11 Project Manual is the manual containing any bidding documents, Specifications, and certain other Contract Documents.

2.12 Change Order is a written order to the Contractor, made and executed as provided in Article 17 hereof, issued after execution of the Contract, authorizing a Change in the Plans or an adjustment in the Contract Sum or the Contract Time.

2.13 Field Order is a written order issued by the Project Manager to the Contractor effecting minor interpretations of the Contract Documents or minor changes in the Work not involving an adjustment in the Contract sum or an extension of the Contract Time.

Article 3

THE WORK

3.1 The Contractor shall perform all Work required by the Contract Documents for **Lake Metroparks PROJECT**. As more fully described in Exhibit A hereto.

Article 4

TIME OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4.1 The Work shall commence no later than five (5) days after the Contractor's receipt of written notice to commence work, and, subject to authorized adjustments, **Substantial Completion**, as defined in Section 4.3 hereof, shall be achieved no later than **DATE** (the "Contract time").

4.2 If the time for Substantial Completion is exceeded, the Board is hereby authorized to deduct and retain out of the payments that may be due or become due the Contractor liquidated damages, and not as a penalty, for each and every day the Work is delayed beyond the time so stipulated, it being understood and agreed that actual damages would be difficult to ascertain with precision in any such case and that the amount of such liquidated damages bears a reasonable relationship to the actual damages that may be projected.

Liquidated Damages will be based on Original Contract Amount.

Original Contract Amount

Damages to be deducted for each
calendar day of overrun

(From) \$0	(To and Including) \$50,000	\$25.00
\$50,001	\$100,000	\$50.00
\$100,001	\$300,000	\$100.00
\$300,001	\$500,000	\$200.00
\$500,001	\$750,000	\$325.00
\$750,001	\$1,000,000	\$450.00
\$1,000,001	\$1,500,000	\$625.00
\$1,500,001	\$2,000,000	\$875.00
OVER	\$2,000,000	\$1,000.00

4.3 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Board can occupy or utilize the Work for its intended use (subject only to minor punch list items which will not unreasonably interfere with the Board's full use, occupancy and enjoyment of the Project site), and all required occupancy permits, if any, have been issued. The Contractor shall thereafter use due-diligence to complete such minor punch list items to the end that Final Completion will be achieved within fourteen (14) days after Substantial Completion and shall cause the least possible interference with the Board, its employees and guests.

4.4 The Date of Substantial Completion of the Work is the date upon which the Board can occupy or utilize the Work for the use for which it is intended or upon which in all material respects it serves the purpose for which it was intended.

Article 5 **CONTRACT SUM**

5.1 The Board shall pay the contractor for the performance of the Work subject to deductions and additions by properly authorized written Change Orders as provided herein, the Contract Sum of **AMOUNT (\$)**. (Bid Amount in Lump Sum).

The Contract Sum is determined as follows:

1. **Item 1 Base Bid** \$ **XXX**
- TOTAL, Not to Exceed \$ **XXX**

5.2 Unless otherwise directed by the contract documents, the Contractor shall include in the Contract Sum any Contingencies stated in the Contract Documents. Items covered by this Contingency shall be supplied for such amounts and by such persons as the Board may direct.

A. The Contingency shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the Contingency delivered at the site.

B. The Contractor's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original contract shall be included in the Contract Sum and not in the Contingency.

C. Whenever the cost is more than or less than the Contingency, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

5.3 Within the Schedule of Items, several items may have cash Contingency assigned to them. This Contingency is ONLY an Estimate of what the item may actually cost. The final actual cost of the item(s) may be higher or lower than what is shown for the Contingency. The contractor will be paid ONLY for what is finally and actually installed. The contractor will provide all necessary documentation, invoices, receipts, time cards, payroll records, shipping tickets, records, data, etc. That indicates the actual and final cost of the item(s). If the actual and final cost of the item(s) is less than what is indicated in the Contingency amount, the Board shall receive a credit. If the actual and final cost of the item(s) is more than what is indicated in Contingency amount, the contractor will receive the correct amount, provided that all invoices and records, etc. are submitted to the Board.

Article 6

PROGRESS PAYMENTS

6.1 Based upon Applications for Payment submitted by the Contractor, the Project Manager may make progress payments on account of the Contract Sum.

6.2 Application for progress payments may be made on intervals as requested by the Contractor, but not more frequently than monthly.

6.3 Before the first Application for Payment, the Contractor shall submit to the Project Manager a schedule that apportions the lump sum price to the major components forming the work which schedule shall be prepared in such form and supported by such data to substantiate its accuracy as the Project Manager may require. This schedule, unless objected to by the Project Manager, shall be used only as a basis for the Contractor's applications for payment.

6.4 At least fourteen (14) days before the date for each progress payment, the Contractor shall submit to the Project Manager an itemized Application for Payment, notarized, supported by such data substantiating the Contractor's right to payment as the Project Manager may require, and reflecting retainage, if any, as provided in the Contract Documents.

6.5 The Project Manager will, within forty-five (45) days after the receipt of the Contractor's application for payment, either pay the amount that the Project Manager determines is properly due, or notify the Contractor in writing of the reasons for withholding payment.

6.6 No progress payment, nor any partial or entire use or occupancy of the Work by the Project Manager shall constitute an acceptance of any work not in accordance with the Contract Documents.

6.7 Progress payments for acceptable labor and work in place shall be made at the rate of ninety-six percent (96%) of the total amount approved by the Project Manager as an estimated progress payment, less former payments therein, provided that said work in place is free from any attested accounts, or from any claims for damages that might in any manner become a liability or charge against the Board, and except as herein provided, the allowance of such estimates shall not be deemed a final acceptance of the work or material therein included. The Project Manager upon receipt of the Contractor's lien waivers from the contractor and his subcontractors, that indicate any and all liens and encumbrances on the Work have been fully discharged, will make such progress payments.

6.8 Retainage held, in order to ensure the faithful and proper performance of the Contract, shall be deposited in an escrow account as designated in Section 153.63 of the Ohio Revised Code. The escrow instructions to the escrow agent shall be in conformance with the provisions of this Contract and with Sections 153.13 and 153.63 of the Ohio Revised Code. This Section 6.8 shall not apply to contracts the total cost of which is less than fifteen thousand dollars (\$15,000).

6.9 If the Contractor fails to comply with the terms of any of the Contract Documents, or with the orders or directions of the Project Manager as provided herein, the Project Manager reserves the right to withhold any payment that may be due until such terms, orders or directions have been complied with to the satisfaction of the Project Manager.

6.10 Payments may be withheld on account of (1) defective work not remedied, (2) claims filed, (3) failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment, (4) damage to the Project Manager or another contractor, of (5) persistent failure to carry out the Work in accordance with the Contract Documents.

Article 7

FINAL PAYMENT

7.1 The Project Manager shall make final payment, constituting the entire unpaid balance of the Contract Sum, to the Contractor when the Work has been completed, the Contract fully performed, and any and all liens and encumbrances released and discharged.

7.2 Final payment shall not be due until the Project Manager determines that Substantial Completion of the Work has occurred and the Contractor has delivered to the Project Manager a complete release of all liens and encumbrances arising out of this Contract and/or the Work or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Project Manager indemnifying it against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Project Manager all moneys the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees, if any liens remain unsatisfied prior to final payment to contractor, the Project Manager shall retain those funds until all appropriate executed and notarized lien waiver(s) are provided.

7.3 The making of final payment shall constitute a waiver of all claims by the Project Manager except those arising from (1) potential or unsettled liens, (2) faulty or defective Work appearing after Substantial Completion, (3) failure of the Work to comply with the requirements of the Contract Documents, or (4) terms of any special warranties required by the Contract Documents. The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final application for payment.

Article 8

THE BOARD

8.1 The Board shall at all times have access to the Work wherever it is in preparation and progress.

8.2 Based on the Board's observations and an evaluation of any application for payment, the Board will determine the amounts owing to the Contractor in accordance with Article 6.

8.3 The Board may reject Work that does not conform to the Contract Documents.

8.4 To the extent required for the Work, the Board shall furnish all surveys and a legal description of the site.

8.5 Except as provided in Section 9.5, the Board shall secure and pay for any approval, easement, assessment or charge required for any construction, use or occupancy of any permanent structure or permanent change in any existing facility.

8.6 The Board shall forward all instructions directly to the Contractor.

8.7 If the Contractor fails to correct defective Work or persistently fails to carry out the Work in accordance with the Contract Documents, The Board, by written order, may order the Contractor to stop the Work or any portion thereof, until the cause for such order has been eliminated; however, this right of the Board to stop the Work shall not give rise to any duty on the part of the Board to exercise this right for the benefit of the Contractor or any other person or entity.

Article 9
THE CONTRACTOR

9.1 The Contractor shall supervise and direct the Work using its best skill and attention and shall be solely responsible for all means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

9.2 Unless otherwise specifically provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

9.3 The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.

9.4 The Contractor warrants to the Board that all materials and equipment incorporated in the Work will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements may be considered defective.

9.5 Unless otherwise indicated in the Contract Documents, the Contractor shall secure and pay for any building permit and for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work.

9.6 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work, and shall promptly notify the Board if the Drawings and Specifications, of any, are at variance therewith.

9.7 The Contractor shall be responsible to the Board for the acts and omissions of its employees and Subcontractors and their agents and employees, and any other persons performing any of the Work under a contract with the Contractor.

9.8 The Contractor shall review, approve and submit any Drawings, Product Data and Samples required by the Contract Documents. The Work shall be in accordance with approved submittals.

9.9 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by its operations. At the completion of the Work, it shall remove all of its waste materials and rubbish from and about the Work site as well as its tools, equipment, machinery and surplus materials.

9.10 The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent, copyright, trade secured or other proprietary rights and shall save the Board harmless from loss on account thereof.

9.11 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Board and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense

A. is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including but not limited to the Work itself, including the loss of use resulting there from, and

B. is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Section 9.11. In any and all claims against the Board or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by either of them, or anyone for whose acts

either of them may be liable, the indemnification obligation under this Section 9.11 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers or workmen's compensation acts, disability benefit acts or other employee benefit acts.

Article 10

SUBCONTRACTS

10.1 Unless otherwise required by the Contract Documents or the Bidding Documents, the Contractor, within seven (7) days of being awarded the Contract, shall furnish to the Board in writing the names of any Subcontractors for each of the principal portions of the Work. The Contractor shall not be required to contract with anyone to whom he has a reasonable objection. Contracts between the Contractor, which are to be performed by a Subcontractor, shall include language that shall bind the subcontractor to the same terms of the contract documents as to which the contractor is bound and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by such Contract Documents, assumes toward the Board.

Article 11

INSURANCE

11.1 The Contractor agrees to provide and maintain at its own expense, worker's compensation coverage that is in compliance with the laws of the State of Ohio.

A. The Contractor also agrees to provide and maintain, at its own expense, Contractor's general liability insurance, covering premises operations, underground, explosion and collapse hazards, products/completed operation, contractual liability, independent contractor's liability, broad form property damage liability, personal injury liability with the employee exclusion deleted, incidental malpractice and extended bodily injury. The Board is to be named as additional insured under the policy, and certification shall be provided prior to the award of the Contract.

B. Limits of liability for general liability coverage shall be a minimum of \$1,000,000 combined single limit - bodily injury and property damage liabilities combined. The Board must be provided a minimum of (30) thirty days' notice of cancellation by the insurance carrier.

C. The Contractor shall also provide automobile liability insurance at limits not less than \$1,000,000 combined single limit - bodily injury and property damage liabilities combined. Coverage must be extended to provide protection for liabilities arising from the use of hired or non-owned automobiles. Any fellow employee exclusion must be deleted. The Board must be named as additional insured under this policy, with certification and endorsement provided prior to the award of Contract. The Board must be provided a minimum of thirty (30) days' notice of cancellation by the insurance carrier.

11.2 The Board shall be responsible for purchasing and maintaining its own liability insurance and, at its option, may maintain such insurance as will protect it against claims which may arise from operations under the Contract.

Article 12

WAGE RATES

12.1 The Contractor and any Subcontractor shall comply with Chapter 4115 of the Ohio Revised Code. Failure by the Contractor to so comply will be deemed by the Board to be a breach of contract. A schedule of the wage rates applicable under said chapter will be furnished to the Contractor by the Board upon request, if such schedule is not included in any Project Manual. The Contractor and any Subcontractor must submit, before beginning performance under this Contract, a schedule of the dates upon which wage payments are to be made, and for each such date thereafter, a copy of his or its complete payroll for that date, exhibiting for each employee

his name, current address, social security number, number of hours worked per day and for the week, his hourly rate of pay, job classification, fringe benefits and deductions from wages. The Contractor and any Subcontractor must file with the Board upon completion of the Work and prior to final payment therefore an affidavit stating that it has complied with Chapter 4115 of the Ohio Revised Code. This Section 12.1 shall apply only if the Contract Sum under this Contract exceeds the dollar thresholds established by the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour.

“New” construction threshold for *Building Construction* – \$250,000

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for *Building Construction* – \$75,000

As of January 1, 2026:

“New” construction that involves *roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction* threshold level has been adjusted to – \$101,201

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves *roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction* threshold level has been adjusted to – \$30,320

The Prevailing Wage Determination Schedule for this project is available for review at the office of the Owner’s Prevailing Wage Coordinator and via the internet at <http://www.com.ohio.gov/dico/default.aspx>.

Article 13

WORK BY BOARD OR BY SEPARATE CONTRACTORS

13.1 The Board reserves the right to perform work related to the Work with its own personnel, and to award separate contracts in connection with portions of the Work or other work on the site. If the Contractor claims that delay or added cost is involved because of such action by the Board, he shall make such claim as he would under Section 17.4 hereof.

13.2 The Contractor shall afford the Board reasonable opportunity for the introduction and storage of their materials and equipment for the execution of their work, and shall coordinate its work with theirs.

Article 14

TIME

14.1 All time limits stated in the Contract Documents are of the essence. The Contractor shall expedite the Work and achieve Substantial Completion within the Contract Time.

14.2 If the Contractor is delayed at any time in the progress of the Work by changes ordered in the Work, labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipated, unavoidable casualties, or any causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order for such reasonable time as the Board may determine.

Article 15

PROTECTION OF UNDERGROUND UTILITY FACILITIES

15.1 If the Work affects or otherwise involves underground utility facilities, both the Board and the Contractor shall adhere to the requirements of Section 153.64 of the Ohio Revised Code.

Article 16
PROTECTION OF PERSONS AND PROPERTY

16.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. It shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to

- A. All employees on the Work and other persons who may be affected thereby,
- B. All the Work and all materials and equipment to be incorporated therein, and
- C. Other property at the site or adjacent thereto.

He shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders of any public authority bearing on the safety of persons and property and their protection from damage, injury or loss. The Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable. The foregoing obligations of the Contractor are in addition to its obligations under Article 9.

Article 17
SAFETY POLICY

17.1 The Contractor shall comply with all requirements of the Lake Metroparks Contractor Safety Policy. This policy is designed to ensure all safety expectations are communicated and understood by all parties. All Contractors providing services to Lake Metroparks must

- A. Comply with all Federal, State, and Local environmental, health and safety regulations.
- B. Always wear all personal protective equipment (PPE), as appropriate.
- C. Complete a Lake Metroparks Contractor Pre-Work Safety Plan prior to beginning any work.
- D. Comply with Contractor's Liability Insurance requirement as outlined in Bid Documents.
- E. Complete a hot work permit if required per applicable regulations.
- F. Comply with the proper confined space permitting process, when required.
- G. Avoid bringing hazardous chemicals on-site without approval from Lake Metroparks.
- H. Drive with caution when in Lake Metroparks' parking lots and park drives.
- I. Ensure that forklift and aerial lift operators have all required permits and training and that fall protection is used on lifts, when required.
- J. Ensure that all contract employees understand the applicable emergency plan and know who to contact in an emergency.
- K. Notify Lake Metroparks of any incidents in a timely manner.
- L. Ensure that all subcontractors are also abiding by the terms of this plan.
- M. Agree that all persons sent to Lake Metroparks are competent with the appropriate education, training, and experience to minimize the potential to cause incidents and injuries.
- N. Provide any applicable documented training, certificates, licenses, etc. of all persons sent when requested by Lake Metroparks.
- O. Maintain good housekeeping and a safe working environment.
- P. Know who the project's applicable Lake Metroparks contacts are and contact them if the expectations set in this policy are compromised.

17.2 Failure to comply with this policy and its expectations will result in the termination of all contracts the Contractor holds with Lake Metroparks. Lake Metroparks reserves the right to suspend visitation rights of individuals for failure to comply with the above safety policy.

Article 18
CHANGES IN THE PLANS

18.1 The Board, without invalidating the Contract, may order Changes in the Plans, consisting of additions, deletions, or modifications, the Contract Sum and the Contract Time being adjusted accordingly. All such Changes in the Plans shall be authorized by written Change Order, signed by the Board prior to any alleged Work commencing.

18.2 The Contract Sum and the Contract Time may be changed only by Change Order.

18.3 If the Contractor wishes to make any claim/proposal for an increase in the Contract Sum, because of claimed/proposed extra work, concealed conditions, or for any reason, no such claim/proposal for payment over and above the Contract Sum shall be authorized or valid unless each of the following occurs:

- A. A written claim/proposal is made by the Contractor to the Board within twenty (20) days of the occurrence or event giving rise to the claim/proposal.
- B. The claim/proposal is filed prior to proceeding with the claimed/proposed extra work; and
- C. A written Change Order is issued, agreed to and signed by the Board/Project Manager.

18.4 The Contractor agrees that he shall have no compensation or claim/proposal for extra work that will increase the Contract Sum unless and until the procedures set forth above are followed and approved, and the Contractor hereby agrees that any claim/proposal for an increase in the Contract Sum will not be made and is waived and invalid hereunder, unless and until the procedures set forth above are followed and a duly approved written Change Order is issued prior to proceeding with any alleged extra work.

Article 19
CORRECTION OF WORK

19.1 The Contractor shall promptly correct any Work rejected by the Board as defective or as failing to conform to the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. Such correction shall be completed within the time period agreed to by the Board. The provisions of this Article 18 apply to Work done by any Subcontractor of Sub-subcontractor as well as to Work done by employees of the Contractor.

Article 20
TERMINATION OF THE CONTRACT

20.1 If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, the Board, after seven days' written notice to the Contractor and without prejudice to any other remedy it may have, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor or, at its option, may terminate the Contract and take possession of the site and of all materials, equipment, tools, and any construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method it may deem expedient, and if the unpaid balance of the Contract Sum exceed the expense of finishing the Work, such excess shall be paid to the Contractor, but if such expense exceeds such unpaid balance, the Contractor shall pay the difference to the Board.

Article 21
DISCRIMINATION

21.1 The Contractor agrees:

- A. That in the hiring of employees for the performance of work under this Contract or any subcontract, neither it nor any Subcontractor or Sub-subcontractor or any person acting on behalf of it or any Subcontractor or Sub-subcontractor shall, by reason of race, creed, sex, handicap, or color,

discriminate against any citizen of the state who is qualified and available to perform the work to which the employment relates; and

B. That neither it nor any Subcontractor or Sub-subcontractor or any person acting on behalf of it or any Subcontractor or Sub-subcontractor shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this Contract on account of race, creed, sex, handicap, or color.

Article 22

MISCELLANEOUS PROVISIONS

22.1 Governing Law: This agreement shall be governed by the laws of the State of Ohio. Any claims, actions or causes of action that arise out of this agreement shall be brought in Lake County, Ohio. In signing this contract, the parties agree that venue for any claims shall be resolved solely by recourse to the Courts of Lake County, Ohio.

22.2 Written Notice: Written notice shall be deemed to have been served if delivered in person to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice.

22.3 Board's Right To Clean Up: If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by the detailed specifications, the Board may clean up and charge the cost thereof to the contractors responsible therefore as it shall deem to be just.

22.4 Independent Contractor Acknowledgement: All individuals employed under this contract that provide services to Lake Metroparks are not considered public employees for the purpose of Ohio Public Employees Retirement System (OPERS) membership.

Article 23

GUARANTEE

23.1 The Contractor or the work as called for in the contract documents, in consideration of the price bid and the payments received or to be received, guarantees that all work done and all material used in the project under contract are in all respects first-class, of the proper kind and quality and has been done and is being done in accordance with the requirements of the contract documents, and also guarantees that the improvements will remain in good condition for and during the entire period of guarantee.

23.2 The period of guarantee shall begin upon the date of final acceptance by the Board in writing, of the construction work, and shall continue for a period of twelve (12) months thereafter or as otherwise provided in the general conditions.

23.3 If at any time before or during said period of guarantee, any defects or omissions become apparent in the work, or if it becomes apparent that any of the work is not in accordance with the requirements of the contract documents, or if any of the work constructed under this contract requires repairs due to defects in materials or workmanship, or for any other cause which may be attributed to the work which is being done by the Contractor, the Board or its authorized representative, will notify the Contractor to rectify such defects or omissions, or to make the repairs so required.

23.4 If the Contractor shall fail to begin to rectify such defects or omissions or to start such repairs within five (5) days from the date of such notification, or if such rectification or repair work is not made in a manner satisfactory to the Board or to its representative, the Board shall have the right to purchase any necessary materials, rent any necessary tools and equipment and to employ such other person or persons as may be deemed proper to make such repairs, and to pay the expense thereof out of moneys then due, or which may thereafter become due to the Contractor, or out of the amount retained for that purpose by the Board.

23.5 If moneys to correct defects, omissions or to resolve any guarantee issues are not sufficient to meet such expense, the additional moneys shall be furnished by the Contractor, and if he refuses or neglects to provide the necessary moneys, they shall be provided by his sureties.

23.6 If it is necessary to remove any part of the work to rectify defects or omissions or to repair defects in materials or workmanship, or if any part of the work becomes damaged due to such rectification or repairing, all such shall be replaced or repaired, all to the satisfaction of the Director or said representative. The guarantee provisions shall also apply to all rectified or repaired work.

Lake Metroparks Board of Park Commissioners
11211 Spear Road, Concord Township, Ohio 44077

Witness Paul Palagyi, Executive Director _____ Date

APPROVED AS TO FORM

Legal Counsel Date

and by

NAME

ADDRESS

ADDRESS

Witness CONTRACTOR _____ Date

EXHIBIT A

The Work consists of providing of all labor, materials, equipment, appliances and services necessary, including those reasonable inferred, to furnish and install complete and operative systems for **PROJECT DESCRIPTION** as shown or specified in strict accordance with this specification and applicable drawings, and ready for use. See Contract Drawings and Specifications for details.

SAMPLE

APPLICATION AND CERTIFICATE FOR PAYMENT

Invoice #:

Page 1 of 2

To Owner: LAKE METROPARKS
11211 Spear Road
Concord Twp, OH 44077
Paul Palagyi

Project:

Application #:

Distribution to :

	Owner
	Architect
	Contractor

Period To:

From Contractor:

Project Nos:

Via (Architect):

Contract Date:

Contract For:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contact.
Continuation Sheet is attached.

1. Original Contract Sum	\$	-
2. Net Change By Change Order	\$	-
3. Contract Sum To Date	\$	-
4. Total Completed and Stored To Date	\$	-
5. Retainage :		
a. 4.00% of Completed Work	\$	-
b. 4.00% of Stored Material	\$	-
Total Retainage	\$	-
6. Total Earned Less Retainage	\$	-
7. Less Previous Certificates For Payments		
8. Current Payment Due	\$	-
9. Balance To Finish, Plus Retainage	\$	-

CHANGE ORDER SUMMARY	Additions	Deductions
Total changes approved in previous months by Owner		\$ -
Total Approved this Month	\$ -	
TOTALS	\$ -	\$ -
Net Changes By Change Order		\$ -

The undersigned Contractor certfies that to the best of the Contractor's knowledge,
information and belief the Work covered by this Application for Payment has been completed
in accordance with the Contract Documents, that all amounts have been paid by the Contractor
for Work for which previous Certificates for Payment were issued and payments received from
the Owner, and that current payment shown herein is now due.

CONTRACTOR: 0

By: _____ Date: _____

State of: _____ County of: _____
Subscribed and sworn to before me this _____ day of _____

Notary Public:
My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the contract Documents, based on on-site observations and the data
comprising the above application, the Architect certifies to the Owner that to the best of the
Architect's knowledge, information and belief the Work has progressed as indicated,
the quality of the Work is in accordance with the Contract Documents, and the Contractor
is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ -

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this application
on the Continuation Sheet that are changed to conform with the amount certified)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the
Contractor named herein. Issuance, payment and acceptance of payment are without
prejudice to any rights of the Owner or Contractor under this Contract.

CONTINUATION SHEET

Page 2 of 2

Application and Certification for Payment, containing

Application No. : 0

Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

Application Date :

To:

Architect's Project No.:

Invoice # :

Contract :

A	B	C	D	E	F	G		H	I
Item No.	Description of Work	Scheduled Value	Work Completed From Previous Application (D+E)	Completed This Period In Place	Materials Presently Stored (Not in D or E)	Total Completed and Stored To Date (D+E+F)	% (G / C)	Balance To Finish (C-G)	Retainage
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
					\$ -	\$ -	#DIV/0!	\$0.00	\$ -
Page Totals		\$ -	\$ -	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -



CERTIFICATE OF SUBSTANTIAL COMPLETION

Project / Bid Number:

Contract Date:

Final Contract Amount:

Owner: Lake Metroparks 11211 Spear Road Concord, Ohio 44077	Contractor:
---	--------------------

- ☐ This Certificate of Substantial Completion **applies to all Work** under the Contract Documents.
- ☐ This Certificate of Substantial Completion **applies to the following specified parts of** the Contract Documents.
- Documents:

The Work in which this Certificate applies has been inspected and reviewed by authorized representatives of the Owner, Contractor and Architect/Engineer and found to be substantially complete, and is also the date of commencement of applicable warranties required by the Contract Documents, except as attached. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the owner can occupy or utilize the Work for intended use.

The date of **Substantial Completion** of the Project or portion thereof designated above is hereby established as

Date

- ☐ A "Punch-List" of items to be completed or corrected is listed below. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The Contractor shall complete or correct the Work within **XX** days from the above date of Substantial Completion.

"Punch-List" items:

Lake Metroparks will issue a Final Completion Certificate upon the acceptance of the Work or designated portion thereof as determined by the Owner, Contractor and Architect/Engineer as complete. Upon this time Final Payment will be authorized and Lake Metroparks will assume full possession.

OR

Lake Metroparks accepts the Work or designated portion thereof as substantially complete and will assume full possession thereof at (location) --, on (date) --.

Signature

Paul B. Palagy
Lake Metroparks
Executive Director
Date:

Signature

Name
Lake Metroparks
Project Manager
Date:

Signature

Name
Company
Title
Date:

This certification does not constitute an acceptance of Work NOT in accordance with the Contract Documents nor is it a release of contractor's obligation to complete the work in accordance with the Contract Documents. Lake Metroparks and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.

CONSENT OF SURETY TO FINAL PAYMENT

AIA Document G707

(Instructions on reverse side)

OWNER	☐
ARCHITECT	☐
CONTRACTOR	☐
SURETY	☐
OTHER	☐

TO OWNER:
(Name and address)

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:
(Name and address)

CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of
any of its obligations to
(Insert name and address of Owner)

, CONTRACTOR,

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)



CAUTION: You should sign an original AIA document that has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced. See Instruction Sheet for Limited License for Reproduction of this document.



AFFIDAVIT OF (SUB OR ORIGINAL) CONTRACTOR

_____, Ohio _____, 20____
STATE OF OHIO, _____ COUNTY, ss:

_____ being first duly sworn says that he is
_____ of _____
the (Sub/Original) Contractor having a contract with LAKE METROPARKS, the OWNER for

Situating on or around or in front of the following described property:
_____ whereof
LAKE METROPARKS was the OWNER.

Affiant further says that the following shows the names of every sub-contractor in the employ of said

giving the amount, if any, which is due, or to become due, to them, or any of them, for work done or machinery,
material or fuel furnished to date hereof, under said contracts.
NOTE: This statement must be accompanied by a similar sworn statement signed by each of the sub-contractors
listed below.

SUB-CONTRACTORS

Name	Trade	Amount due or to become due for work and material furnished to date hereof

Said affiant further says that the following shows the names of every person furnishing machinery, material or
fuel to _____ giving them the amount, if any, which is due, or
to become due, to them, for machinery, material or fuel furnished to date hereof, under said contracts.

MATERIAL MEN

Name	Trade	Amount due or to become due for work and material furnished to date hereof

AFFIDAVIT OF (SUB OR ORIGINAL) CONTRACTOR

Said affiant further says that the following shows the names of every unpaid laborer in the employ of _____ furnishing labor under said contract, giving the amount, if any, which is due, or to become due, for labor done to date hereof.

Name	Trade	Amount due or to become due for labor furnished to date hereof

That the amounts due or become due to said sub-contractors, material men and laborers, for work done, or machinery, material or fuel furnished to date hereof, to _____ Is fully and correctly set forth opposite their names, respectfully, in the aforesaid statements, and further evidenced by certificates of every person furnishing machinery, material or fuel, hereto attached, and made a part hereof.

Affiant further says that _____ has not employed or purchased or procured machinery, material or fuel from, or sub-contracted with any person, firm or corporation, other than those mentioned above, and owes for no labor performed, or machinery or fuel furnished under said contracts, other than above set forth.

Name / Title

Sworn to before me and subscribed in my presence, at _____, Ohio, this _____ day of _____, 20____.

Notary Public

_____, Ohio, _____, 20____

The undersigned certifies that to date hereof that have furnished machinery, material or fuel as set out herein to _____ for _____

Situated on or around or in front of the property described in the foregoing affidavit; that the nature of said machinery, material or fuel furnished, the date when they commenced furnishing the same and the amount now due or owing to each of them, is correctly stated and set opposite their respective names or that have been paid in full, if so acknowledged hereon.

Name	Machinery, materials or fuel and nature of the same	Commenced Furnishing	Amount due or to become due to date hereof.

WAIVER OF LIEN

To All Whom It May Concern:

In consideration of the FINAL sum of _____ dollars,
Written words

\$_____, and other valuable consideration in hand paid, the receipt where of is hereby acknowledged, the undersigned does hereby waive, release and relinquish any and all liens or claims, right to lien or claim, for labor or materials, or both, furnished to date hereof, for premises known and described as follows:

Lake Metroparks Project: _____

Project Address: _____

Contractor/Sub-Contractor Name

Trade

Witness the hand and seal given this _____ day of _____, 20____,

City of _____ County of _____ State of _____.

Address

Authorized Agents' Name (print)

Signature of Authorized Agent

State of Ohio _____ County of _____

Subscribed and sworn to before me by _____

This _____ day of _____, 20____.

Notary Public _____

My commission expires _____.

(seal)

AFFIDAVIT OF PREVAILING WAGES

I, _____, of

(Print Name)

(Company name & address)

do hereby certify that the wages paid to all employees for the full number of hours worked in connection with the Contract to the Improvement, Repair and Construction of:

(Project and Location)

during the following period, from _____ to _____ is in accordance with the prevailing wage prescribed by the contract document.

I further certify that no rebates or deductions for any wages due any person have been directly or indirectly made other than those provided by law.

Name (print)

Signature of Officer or Agent

Sworn to and subscribed in my presence this _____ day of _____, 20____.

(Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the Contractor or Subcontractor who supervises the payment of employees, before the Board will release the surety and/or make a final payment due under the terms of the Contract.

Schedule "A"
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Drawing Number & Title

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PROJECT MANUAL

For The

LAKE METROPARKS – LAKEFRONT LODGE RENVOATIONS

July 2026

OWNER:

Lake Metroparks
1121 Spear Road
Concord Township, Ohio 44077

ARCHITECT:

ThenDesign Architecture Ltd.
4230 River Street
Willoughby, Ohio 44094
(440) 269-2266

Job No. 26040

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SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
- B. Related Requirements:
 - 1. Section 024119 "Selective Structure Demolition" for photographic documentation before selective demolition operations commence.

1.3 INFORMATIONAL SUBMITTALS

- A. Digital Photographs: Submit image files within three days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 8 megapixels.
 - 2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - 3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name of Contractor.
 - c. Date photograph was taken.

1.4 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.
- C. Preconstruction Photographs: Before commencement of demolition, take photographs of Project site, including existing items to remain during construction, from different vantage points, as directed by Architect.

END OF SECTION 01322

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Record Shop Drawings.
 - 5. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for final property survey.
 - 2. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files of scanned record prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned record prints.
 - 2) Include each drawing, whether or not changes and additional information were recorded.

- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
- D. Record Shop Drawings: Submit annotated PDF electronic files and directories of each submittal.
- E. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or other Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.

4. Do not permanently conceal any work until required information has been recorded.
5. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
6. Mark important additional information that was either shown schematically or omitted from original Drawings.
7. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, RFI's, and similar identification, where applicable.

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

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect and Construction Manager.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

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

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

B. Format: Submit record specifications as annotated PDF electronic file, scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

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

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

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as annotated PDF electronic file, scanned PDF electronic file(s) of marked-up paper copy of Product Data.
1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file, scanned PDF electronic file(s) of marked-up miscellaneous record submittals.
1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

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

END OF SECTION 017839

SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.
- B. Related Sections include the following:
 - 1. Division 01 Section "Temporary Protection and Facilities" for temporary construction and environmental-protection measures for selective demolition operations.
 - 2. Division 01 Section "Cutting and Patching" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

- A. Predemolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Comply with Division 01 Section "Photographic Documentation." Submit before Work begins.

1.5 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 01 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is unknown whether hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

1. Comply with requirements specified in Division 01 Section "Photographic Documentation."
2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
1. Arrange to shut off indicated utilities with utility companies.
 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

3.3 PREPARATION

- A. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 01 Section "Temporary Protection and Facilities."
- B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

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

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Store items in a secure area until turned over to Owner.
3. Protect items from damage until turned over to Owner.

C. Removed and Reinstalled Items:

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

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

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Cut concrete to a depth of at least 3/4 inch at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.
- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
 - 1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.
- F. Roofing: Remove no more existing roofing than can be covered in one day by new roofing and so that building interior remains watertight and weathertight. Refer to Drawings for new roofing requirements.
 - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 - 2. Remove existing roofing system down to substrate.
- G. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

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

END OF SECTION 024119

SECTION 055213 - PIPE AND TUBE RAILINGS

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. Stainless-steel pipe and tube handrails.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
 - 3. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of exposed finish required.
 - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters, including finish.
 - 2. Fittings and brackets.
 - 3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
 - a. Show method of connecting and finishing members at intersections.
- D. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Welding certificates.
- C. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.
- D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.
- E. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.
- F. Evaluation Reports: For post-installed anchors, from ICC-ES.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Stainless-Steel Pipe and Tube Railings:
 - 1. Alfab, Inc.
 - 2. American Stair, Inc.
 - 3. Sharon Companies Ltd. (The).
- B. Source Limitations: Obtain each type of railing from single source from single manufacturer. Provide from same manufacturer as provided in specification section 055100.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 - 2. Infill of Guards:
 - a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
 - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: [120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.3 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
 - 1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

2.4 STAINLESS STEEL

- A. Tubing: ASTM A 554, Grade MT 304.
- B. Pipe: ASTM A 312/A 312M, Grade TP 304.
- C. Castings: ASTM A 743/A 743M, Grade CF 8 or CF 20.
- D. Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304.

2.5 FASTENERS

- A. General: Provide the following:
 - 1. Stainless-Steel Railings: Type 304 stainless-steel fasteners.
 - 2. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:
 - 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
 - 2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
 - 3. Provide tamper-resistant flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
 - 1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
 - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.6 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
 - 1. For stainless-steel railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- C. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- D. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.

2.7 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.
- J. Form Changes in Direction as Follows:
 - 1. By bending.
- K. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of railing members with prefabricated end fittings.
- M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.
- N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
 - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- O. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
- P. For railing posts set in concrete, provide stainless-steel sleeves not less than 6 inches (150 mm) long with inside dimensions not less than 1/2 inch (13 mm) greater than outside dimensions of post, with metal plate forming bottom closure.

2.8 STAINLESS-STEEL FINISHES

- A. Remove tool and die marks and stretch lines, or blend into finish.
- B. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
- C. Stainless Steel Tubing Finishes:
 - 1. 320-Grit Polished Finish: Oil-ground, uniform, fine, directionally textured finish.
- D. Stainless Steel Sheet and Plate Finishes:
 - 1. Directional Satin Finish: ASTM A 489/A 480, No. 4.
- E. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.

3.4 ANCHORING POSTS

- A. Use metal sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- C. Cover anchorage joint with flange of same metal as post, welded to post after placing anchoring material.
- D. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For stainless-steel pipe railings, weld flanges to post and bolt to supporting surfaces.

3.5 ATTACHING RAILINGS

- A. Anchor railing ends at walls with round flanges anchored to wall construction and welded to railing ends.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and welded to railing ends.
- C. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- D. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 - 2. For hollow masonry anchorage, use toggle bolts.
 - 3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.
 - 4. For steel-framed partitions, use hanger or lag bolts set into fire-retardant-treated wood backing between studs. Coordinate with stud installation to locate backing members.
 - 5. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.

6. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.

3.6 ADJUSTING AND CLEANING

- A. Clean stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.
- B. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.
 1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

3.7 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION 055213

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

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 the following:
 - 1. Rooftop equipment bases and support curbs.
 - 2. Wood blocking and nailers.
- B. Related Sections include the following:
 - 1. Division 06 Section "Interior Architectural Woodwork" for nonstructural carpentry items exposed to view and not specified in another Section.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. WCLIB: West Coast Lumber Inspection Bureau.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPAC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - 4. Wood framing members that are less than 18 inches above the ground in crawl spaces or unexcavated areas.
 - 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

- C. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
- D. For blocking not used for attachment of other construction Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1 .
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A ; with ASTM A 563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 .

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- C. Do not splice structural members between supports, unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- G. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in ICBO's Uniform Building Code.
 - 4. Table 2305.2, "Fastening Schedule," in BOCA's BOCA National Building Code.
 - 5. Table 2306.1, "Fastening Schedule," in SBCCI's Standard Building Code.
 - 6. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 7. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in ICC's International One- and Two-Family Dwelling Code.
- H. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

END OF SECTION 061053

SECTION 061600 - SHEATHING

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. Wall sheathing.
 - 2. Sheathing joint and penetration treatment.

- B. Related Requirements:

- 1. Section 061000 "Rough Carpentry" for plywood backing panels.
 - 2. Section 072500 "Weather Barriers" for water-resistive barrier applied over wall sheathing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

- 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
 - 3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5516.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For following products, from ICC-ES:
 - 1. Fire-retardant-treated plywood.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory."

2.2 WOOD PANEL PRODUCTS

- A. Plywood: Either DOC PS 1 or DOC PS 2 unless otherwise indicated.
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.3 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where used as blocking, backing, fascia boards, where concealed, or where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Use treatment that does not promote corrosion of metal fasteners.
 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 4. Design Value Adjustment Factors: Treated lumber plywood shall be tested according ASTM D 5516 and design value adjustment factors shall be calculated according to ASTM D 6305. Span ratings after treatment shall be not less than span ratings specified. For roof sheathing and where high-temperature fire-retardant treatment is indicated, span ratings for temperatures up to 170 deg F (76 deg C) shall be not less than span ratings specified.
- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat all plywood unless otherwise indicated.

2.4 WALL SHEATHING

- A. Glass-Mat Gypsum Wall Sheathing: ASTM C 1177/1177M.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. CertainTeed Corporation; GlasRoc.
 - b. G-P Gypsum Corporation; Dens-Glass Gold.
 - c. National Gypsum Company; Gold Bond e(2)XP.
 - d. United States Gypsum Co.; Securock.
 2. Type and Thickness: Type X, 5/8 inch (15.9 mm) thick.
 3. Size: 48 by 96 inches (1219 by 2438 mm) for vertical installation.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.

- E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
 - 1. For wall and roof sheathing panels, provide screws with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.
- F. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing to be attached, with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.
 - 1. For steel framing less than 0.0329 inch (0.835 mm) thick, use screws that comply with ASTM C 1002.
 - 2. For steel framing from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick, use screws that comply with ASTM C 954.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Wall and Roof Sheathing:
 - a. Nail to wood framing.
 - b. Screw to cold-formed metal framing.
 - c. Space panels 1/8 inch (3 mm) apart at edges and ends.

3.3 GYPSUM SHEATHING INSTALLATION

- A. Comply with GA-253 and with manufacturer's written instructions.
 - 1. Fasten gypsum sheathing to wood framing with nails or screws.
 - 2. Fasten gypsum sheathing to cold-formed metal framing with screws.
 - 3. Install boards with a 3/8-inch (9.5-mm) gap where non-load-bearing construction abuts structural elements.
 - 4. Install boards with a 1/4-inch (6.4-mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- B. Apply fasteners so heads bear tightly against face of sheathing, but do not cut into facing.
- C. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over centers of studs, and stagger end joints of adjacent boards not less than one stud spacing. Attach boards at perimeter and within field of board to each steel stud.
 - 1. Space fasteners approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of boards.
- D. Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.
 - 1. Space fasteners approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of boards.

END OF SECTION 061600

SECTION 062023 - INTERIOR FINISH CARPENTRY

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. Shelving and clothes rods.
 - 2. Shop finishing of interior woodwork.
- B. Related Requirements
 - 1. Division 06 "Rough Carpentry" for furring, blocking and other carpentry work not exposed to view.

1.3 DEFINITIONS

- A. MDF: Medium-density fiberboard.
- B. MDO: Plywood with a medium-density overlay on the face.
- C. PVC: Polyvinyl chloride.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
 - 2. Include data for fire-retardant treatment, manufacturer and certification by treating plant that treated materials comply with requirements.
 - 3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project Site to levels specified.
 - 4. Include copies of warranties from chemical-treatment manufacturers for each type of treatment.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show details full size.
 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
 3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
 - C. Samples for Initial Selection: For each type of product involving selection of colors, profiles, or textures.
 - D. Samples for Verification:
 1. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq.in. for lumber and 8 by 10 inches for panels.
 2. For each finish system and color of lumber and panel products with factory-applied-finish, 50 sq.in. for lumber and 8 by 10 inches for panels.
- 1.5 INFORMATIONAL SUBMITTALS
- A. Evaluation Reports: For fire-retardant-treated wood, from ICC-ES.
 - B. Sample Warranty: For manufacturer's warranty.
 - C. Woodwork Quality Standard Compliance Certificates: AWI Quality Certificate Project certifications.
 - D. Qualification Data: For Installer.
- 1.6 QUALITY ASSURANCE
- A. Installer Qualifications: Certified participant in AWI's Quality Certification Program.
 - B. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
 - C. Fabricator Qualifications: A firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
 - D. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
 - E. Fire-Test-Response Characteristics: Where fire-retardant materials or products are indicated, provide materials and products with specified fire-test-response characteristics as determined by testing identical products per test method indicated by UL, ITS, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify with appropriate markings of applicable testing and inspecting agency in the form of separable paper label or, where required by authorities having jurisdiction, imprint on surfaces of materials that will be concealed from view after installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.
- B. Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to discoloration, sagging, and irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.
- C. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.9 PRODUCT COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Regional Materials: The following wood products shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
 - 1. Interior trim.
 - 2. Shelving and clothes rods.
 - 3. Locker room benches.

- B. Low Emitting Materials: Composite wood products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Lumber: DOC PS 20 and the following grading rules:
 - 1. NeLMA: Northeastern Lumber Manufacturer's Association, "Standard Grading Rules for Northeastern Lumber."
 - 2. NHLA: National Hardwood Lumber Association, "Rules for the Measurement and Inspection of Hardwood & Cypress."
 - 3. NGLA: National Lumber Grades Authority, "Standard Grading Rules for Canadian Lumber."
 - 4. SPIB: The Southern Pine Inspection Bureau, "Standard Grading Rules for Southern Pine Lumber."
 - 5. WCLIB: West Coast Lumber Inspection Bureau, Standard No. 17, "Grading Rules for West Coast Lumber."
 - 6. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."
- D. Factory mark each piece of lumber with grade stamp of grading agency indicating grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by grading agency.
- E. Particleboard: ANSI A208.1, Grade M-2 and Grade M-2-Exterior Glue.
- F. Melamine-Faced Particleboard: Particleboard complying with ANSI A208.1, Grade M-2, finished on both faces with thermally fused, melamine-impregnated decorative paper and complying with NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.
 - 1. Color: Match Architect's samples.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. General: For applications indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction, and comply with testing requirements; testing by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
 - 1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent respectively.
- C. For exposed items indicated to receive a stained or natural finish, use organic resin chemical formulations that do not contain colorants, and provide materials that do not have marks from spacer sticks on exposed face.

- D. Do not use material that does not comply with requirements for untreated material or is warped or discolored.
- E. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
 - 2. For exposed plywood indicated to receive a stained or natural finish, mark back of each piece.
- F. Application: All interior lumber and plywood.

2.3 INTERIOR TRIM

- A. Hardwood Lumber Trim for Transparent Finish (Stain or Clear Finish as selected by Architect):
 - 1. Species and Grade: White maple, clear; NHLA
 - 2. Maximum Moisture Content: 9 percent.
 - 3. Finger Jointing: Not allowed.
 - 4. Gluing for Width: Use for lumber trim wider than 6 inches.
 - 5. Veneer Material: Not allowed.
 - 6. Face Surface: Surfaced (smooth).
 - 7. Matching: Selected for compatible grain and color.
 - 8. AWI Finish System: Catalyzed Polyurethane.
 - 9. Staining: Color to Match Architect's sample.
 - 10. Wash Coat for Stained Finish: Apply wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
 - 11. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

2.4 SHELVING AND CLOTHES RODS

- A. Closet and Utility Shelving: Made from the following material, 3/4 inch thick:
 - 1. Particleboard with solid-wood front edge.
 - 2. MDF with solid-wood front edge.
 - 3. Melamine-faced particleboard with applied-PVC front edge.
- B. Shelf Brackets with Rod Support: BHMA A156.16, B04051; prime-painted formed steel.
- C. Shelf Brackets without Rod Support: BHMA A156.16, B04041; prime-painted formed steel.
- D. Standards for Adjustable Shelf Brackets: BHMA A156.9, B04102; powder-coat-finished steel.
- E. Adjustable Shelf Brackets: BHMA A156.9, B04112; powder-coat-finished steel.
- F. Standards for Adjustable Shelf Supports: BHMA A156.9, B04071; powder-coat-finished steel.
- G. Adjustable Shelf Supports: BHMA A156.9, B04081 or B04091; powder-coat-finished steel.
- H. Clothes Rods: 1-5/16-inch- diameter, chrome-plated-steel tubes.
- I. Rod Flanges: Chrome-plated steel.

2.5 HARDWARE AND ACCESSORIES

- A. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - 1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - 2. Satin Stainless Steel: BHMA 630.
- B. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.6 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- B. Low-Emitting Materials: Adhesives shall comply with testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
 - 1. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- D. Multipurpose Construction Adhesive: Formulation, complying with ASTM D 3498, that is recommended for indicated use by adhesive manufacturer.
 - 1. Adhesives shall have a VOC content of 70 g/L or less.

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

- A. Back out or kerf backs of the following members except those with ends exposed in finished work:
 - 1. Interior standing and running trim except show and crown molds.
- B. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours.

3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, too small to fabricate with proper jointing arrangements, or with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
 - 2. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
 - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 4. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available.
 - 1. Do not use pieces less than 24 inches long, except where necessary.
 - 2. Stagger joints in adjacent and related standing and running trim.
 - 3. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint.
 - 4. Use scarf joints for end-to-end joints.
 - 5. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.

6. Match color and grain pattern of trim for transparent finish (stain or clear finish) across joints.
7. Install trim after gypsum-board joint finishing operations are completed.
8. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting.
9. Fasten to prevent movement or warping.
10. Countersink fastener heads on exposed carpentry work and fill holes.

3.5 SHELVING AND CLOTHES ROD INSTALLATION

- A. Cut shelf cleats at ends of shelves about 1/2 inch less than width of shelves and sand exposed ends smooth.
 1. Install shelf cleats by fastening to framing or backing with finish nails or trim screws, set below face and filled.
 2. Space fasteners not more than 16 inches o.c. Use two fasteners at each framing member or fastener location for cleats 4 inches nominal in width and wider.
 3. Apply a bead of multipurpose construction adhesive to back of shelf cleats before installing.
 4. Remove adhesive that is squeezed out after fastening shelf cleats in place.
- B. Install shelf brackets according to manufacturer's written instructions, spaced not more than 32 inches o.c. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
- C. Install standards for adjustable shelf supports according to manufacturer's written instructions. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors. Space fasteners not more than 12 inches o.c.
- D. Install standards for adjustable shelf brackets according to manufacturer's written instructions, spaced not more than 36 inches o.c. and within 6 inches of ends of shelves. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
- E. Cut shelves to neatly fit openings with only enough gap to allow shelves to be removed and reinstalled.
 1. Install shelves, fully seated on cleats, brackets, and supports.
 2. Fasten shelves to cleats with finish nails or trim screws, set flush.
 3. Fasten shelves to brackets to comply with bracket manufacturer's written instructions.
- F. Install rod flanges for rods as indicated.
 1. Fasten to shelf cleats, framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
 2. Install rods in rod flanges.

3.6 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

- A. Clean interior finish carpentry on exposed and semi-exposed surfaces. Restore damaged or soiled areas and touch up factory-applied finishes, if any.

3.8 PROTECTION

- A. Protect all finished products from other trades, dust, and debris until Substantial Completion.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
 - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062023

SECTION 079200 - JOINT SEALANTS

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. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Acoustical joint sealants.
- B. Related Sections:
 - 1. Division 04 Section "Unit Masonry" for masonry control and expansion joint fillers and gaskets.
 - 2. Division 07 Section "Fire-Resistive Joint Systems" for sealing joints in fire-resistance-rated construction.
 - 3. Division 08 Section "Glazing" for glazing sealants.
 - 4. Division 09 Section "Gypsum Board" for sealing perimeter joints.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Qualification Data: For qualified Installer.
- D. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- E. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- G. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.5 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

- A. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

- D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- F. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
 - c. Pecora Corporation; 890.
 - d. Tremco Incorporated; Spectrem 1.

2.3 URETHANE JOINT SEALANTS

- A. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 50, for Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; Dynatrol II.
 - b. Polymeric Systems, Inc.; PSI-270.
 - c. Tremco Incorporated; Dymeric 240.

2.4 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bostik, Inc.; Chem-Calk 600.
 - b. Pecora Corporation; AC-20+.
 - c. Tremco Incorporated; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

2.6 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.

- c. Unglazed surfaces of ceramic tile.
- 3. Remove laitance and form-release agents from concrete.
- 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 - 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.

5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.

- G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 FIELD QUALITY CONTROL

- A. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 1. Joint Locations:
 - a. Joints between plant-precast architectural concrete units.
 - b. Control and expansion joints in unit masonry.
 - c. Joints between metal panels.
 - d. Joints between different materials listed above.
 - e. Perimeter joints between materials listed above and frames of doors, windows and louvers.
 2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 100/50.
 3. Urethane Joint Sealant: Multicomponent, nonsag, Class 50.
 4. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.

- c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of interior unit masonry, concrete, walls, and partitions.
 - e. Joints on underside of plant-precast structural concrete planks.
 - f. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
 - 2. Joint Sealant: Latex.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors
- C. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces
- 1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces
- 1. Joint Location:
 - a. Acoustical joints where indicated.
 - b. Other joints as indicated.
 - 2. Joint Sealant: Acoustical.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

SECTION 092900 - GYPSUM BOARD

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 the following:
 - 1. Interior gypsum board.
- B. Related Sections include the following:
 - 1. Division 05 Section "Cold-Formed Metal Framing" for load-bearing steel framing that supports gypsum board.
 - 2. Division 06 Section "Miscellaneous Rough Carpentry" for wood framing and furring that supports gypsum board.
 - 3. Division 07 Section "Fire-Resistive Joint Systems" for head-of-wall assemblies that incorporate gypsum board.
 - 4. Division 09 Section "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board.
 - 5. Division 09 Section "Tiling" for cementitious backer units installed as substrates for ceramic tile.
 - 6. Division 09 painting Sections for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated. Include USG "Danish" radius edge bead.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

1.5 STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install interior products until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

- A. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum Co.
 - b. G-P Gypsum.
 - c. National Gypsum Company.
 - d. USG Corporation.
- B. Type X:
 - 1. Thickness: 5/8 inch .
 - 2. Long Edges: Tapered.
- C. Abuse-Resistant Type X: Manufactured to produce greater resistance to surface indentation, through-penetration (impact resistance), and abrasion than standard, regular-type and Type X gypsum board.
 - 1. Core: 5/8 inch , Type X.
 - 2. Long Edges: Tapered.
- D. Acoustical Abuse Resistant Type X: Manufactured to produce greater resistance to surface indentation, through-penetration (impact resistance), and abrasion than standard, regular-type and Type X gypsum board, while reducing sound transmission.
 - 1. Manufacturer (as listed below or an equivalent approved substitution):
 - a. Certainteed Silent FX (basis of design)
 - b. National Gypsum Soundbreak XP

2. Core: 5/8 inch , Acoustic Type X.
3. Long Edges: Tapered.

E. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.

1. Thickness: **5/8 inch**.
2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Paper-faced galvanized steel sheet.
2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.
 - h. USG “Danish” bead.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

2.5 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
- C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- D. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."
 1. Provide sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.6 TEXTURE FINISHES

- A. Primer: As recommended by textured finish manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.

2. Fit gypsum panels around ducts, pipes, and conduits.
 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
1. Type X: Where required for fire-resistance-rated assembly at ceilings.
 2. Abuse-Resistant Type X: Walls.
 3. Acoustical Abuse-Resistant Type X (Alternate A5): Walls where indicated.
 4. Cementitious Backer Units: Walls, behind tile.
- B. Single-Layer Application:
1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
 2. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
 3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. Bullnose Bead: Use at outside corners.
3. LC-Bead: Use at exposed panel edges.
4. L-Bead: Use where indicated.
5. U-Bead: Use where indicated.
6. Curved-Edge Cornerbead: Use at curved openings.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to level 5 finish and according to ASTM C 840.
 - a. Primer and its application to surfaces are specified in other Division 09 Sections.

3.6 APPLYING TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written recommendations.

3.7 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Thermoset-rubber base.
 - 2. Rubber stair accessories.
 - 3. Rubber molding accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 2 inches long.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.4 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Coordinate mockups in this Section with mockups specified in other Sections.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- B. Installation Qualification: Contractors for floor covering installation should be experienced in managing commercial flooring projects and provide professional installers, qualified to install the various flooring materials specified. An installer is "qualified" if trained by a certified International Standards and Training Alliance resilient floor covering installer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 55 deg F or more than 85 deg F.

1.6 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 65 degrees F or more than 85 degrees F, in spaces to receive resilient products during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Fire-Test-Response Characteristics: For resilient base and accessories, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.
 - 2. ASTM E (Smoke Generation) Maximum Specific Optical Density of 450 or less.
- C. Products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 THERMOSET-RUBBER BASE (RB)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Flexco; Wallflowers Wall Base.
 - 2. Johnsonite; A Tarkett Company; Baseworks Rubber Wall Base.
 - 3. Mannington Commercial: BurkeBase Type TS Wall Base.

4. Mondo Contract Flooring; Wall Base.
5. Nora Systems, Inc.; Nora Wall Base
6. Roppe Corporation, U.S.A.; Pinnacle Wall Base.

B. Product Standard: ASTM F 1861, Type TS (rubber, thermoset).

1. Group: I (solid, homogeneous).
2. Style: B, Cove.
3. Thickness: 0.125 inch.
4. Height: 4 inches.
5. Lengths: Coils in manufacturer's standard length, minimum 100 feet.
6. Outside Corners: Job formed.
7. Inside Corners: Job formed.
8. Colors: As selected by Architect from full range of industry colors.

2.3 RUBBER STAIR ACCESSORIES (RTR)

A. Manufacturers

1. Flexco, Corporation; Heavy Duty Radial II One-Piece Tread with Riser, with and without Visually Impaired Strip.
2. Johnsonite, A Tarkett Company; Rubber Tread with Integrated Riser VIRTR.
3. Mannington Commercial; ColorScape One-Step Stair Treads with and without Visually Impaired Strip.
4. Nora Systems, Inc.; Norament Stair Tread with and without Visually Impaired Strip.
5. Roppe Corporation, U.S. A.; VAntage Profile One-Piece Tread and Riser with and without Visually Impaired Strip.

B. Stair Treads: ASTM F 2169.

1. Type: TS (rubber, vulcanized thermoset).
2. Class: 2 (pattern: as selected by architect from manufacturer's full range of patterns and textures.)
3. Group: 2 (with contrasting color for the visually impaired.)
4. Nosing Style: Square, adjustable to cover angles between 60 and 90 degrees.
5. Nosing Height: 1-1/2 - 2 inches.
6. Thickness: 1/8 inch and tapered to the back edge.
7. Size: Lengths and depths to fit each stair tread in one piece.
8. Integral Risers: Smooth, flat; in height that fully covers substrate.

C. Landing Tile: Matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.

D. Locations: Provide rubber stair accessories in areas as indicated.

E. Colors: As selected by Architect from full range of industry colors (minimum 21).

2.4 VINYL MOLDING ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Flexco, Corporation; Flooring Accessories.
 - 2. Johnsonite; A Tarkett Company; Specialty Flooring Finishing Accessories.
 - 3. Mannington Commercial; Vinyl Accessories.
 - 4. Roppe Corporation, U.S.A.; Vinyl Accessories.
- B. Description: Vinyl cap for cover resilient flooring, carpet edge for glue-down applications, nosing for carpet, nosing for resilient flooring, reducer strip for resilient flooring, joiner for tile and carpet, and transition strips.
- C. Profile and Dimensions: As indicated.
- D. Locations: Provide vinyl molding accessories in areas indicated.
- E. Colors: As selected by Architect from full range of industry colors.

2.5 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
 - 1. Adhesives shall have a VOC content of 50 g/L or less.
- C. Stair-Tread Nose Filler: Two-part epoxy compound recommended by resilient stair-tread manufacturer to fill nosing substrates that do not conform to tread contours.
- D. Metal Edge Strips: of width shown, nominal 2 inches wide, of height required to protect exposed edges of flooring, and in maximum available lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F710.
 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
 4. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient products until materials are the same temperature as space where they are to be installed.
 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Use only manufacturer's recommended adhesive for installation.
- C. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- D. Install resilient base in lengths as long as practical without gaps at seams and with tops of

adjacent pieces aligned.

- E. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- F. Do not stretch resilient base during installation.
- G. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- H. Preformed Corners: Install preformed corners before installing straight pieces.
- I. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 6 inches in length.
 - a. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 6 inches in length.
 - 3. Mitered corners are not acceptable.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Stair Accessories:
 - 1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
 - 2. Use only manufacturer's recommended adhesive for installation.
 - 3. Tightly adhere to substrates throughout length of each piece.
 - 4. For treads installed as separate, equal-length units, install to produce a flush joint between units.
- C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
 - 1. Remove adhesive and other blemishes from surfaces. Follow manufacturer's instructions to avoid damage to flooring finish and accessory materials' finish.
 - 2. Sweep and vacuum horizontal surfaces thoroughly.
 - 3. Damp-mop horizontal surfaces to remove marks and soil.

- C. Initial Maintenance for Rubber Tread and Riser Units: Remove soil, visible adhesive, and surface blemishes from floor tile surfaces before performing manufacturer's recommended maintenance.
 - 1. Use commercially available product recommended by flooring manufacturer.
 - 2. Remove silicone finish with a diluted pH neutral cleaner/degreaser using flooring and solution manufacturers' accepted method.
- D. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- E. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Luxury Vinyl Tile

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of resilient floor tile.

1. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
2. Show details of special patterns.

C. Samples for Verification: Full-size units of each color and pattern of floor tile required.

D. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by the manufacturer for floor tile installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

- B. Mock-Up: Build floor tile mock-up to verify selections made under sample submittals and to demonstrate pattern and aesthetic effects and set quality standards for materials and execution.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.8 FIELD CONDITIONS

- A. Refer to manufacturer's recommended project conditions.
- B. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- C. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- D. Close spaces to traffic during floor tile installation.
- E. Close spaces to traffic for 48 hours after floor tile installation.
- F. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 LUXURY VINYL TILE (LVT-1)

- A. LVT -1: Subject to compliance with requirements, provide Interface Natural Woodgrains – A00207 Washed Wheat
- B. Contact: Katie Hauser: Katie.Hauser@interface.com
- C. Tile Standard: ASTM F1700.
 - 1. Class: Class III, Printed Film Vinyl Tile.
 - 2. Type: B, Embossed Surface.
 - 3. Finish: Ceramor

- D. Wear Layer Thickness: 22 mil.
- E. Total Thickness: 3 mm
- F. Edge Profile: Square
- G. Size: 25 cm x 1 m
- H. Colors and Patterns: As indicated by manufacturer's designations

2.3 LUXURY VINYL TILE (LVT-2)

- A. LVT -1: Subject to compliance with requirements, provide Interface Textured Stones A00301 Polished Concrete
- B. Contact: Katie Hauser: Katie.Hauser@interface.com
- C. Tile Standard: ASTM F1700.
 - 1. Class: Class III, Printed Film Vinyl Tile.
 - 2. Type: B, Embossed Surface.
 - 3. Finish: Ceramor
- D. Wear Layer Thickness: 22 mil.
- E. Total Thickness: 3 mm
- F. Edge Profile: Square
- G. Size: 50 cm x 50 cm
- H. Colors and Patterns: As indicated by manufacturer's designations

2.4 LUXURY VINYL TILE (LVT-3)

- A. LVT -1: Subject to compliance with requirements, provide Interface Textured Stones A00310 Dark Concrete
- B. Contact: Katie Hauser: Katie.Hauser@interface.com
- C. Tile Standard: ASTM F1700.
 - 1. Class: Class III, Printed Film Vinyl Tile.
 - 2. Type: B, Embossed Surface.
 - 3. Finish: Ceramor
- D. Wear Layer Thickness: 22 mil.
- E. Total Thickness: 3 mm
- F. Edge Profile: Square
- G. Size: 50 cm x 50 cm

- H. Colors and Patterns: As indicated by manufacturer's designations

2.5 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F710 and ASTM F1344.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
 - 4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. 1000 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.
- D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

- E. Do not install floor tiles until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- F. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles in pattern indicated, both square with room axis and at a 45-degree angle with room axis.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay tiles in pattern of colors and sizes indicated.
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- H. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
 - 1. Remove adhesive and other blemishes from surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from marks, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover floor tile until Substantial Completion.

END OF SECTION 096519

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SECTION 099123 - INTERIOR PAINTING

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 surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete.
 - 2. Concrete masonry units (CMUs).
 - 3. Steel and iron.
 - 4. Galvanized metal.
 - 5. Gypsum board.
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming structural steel and metal substrates with primers specified in this Section.
 - 2. Section 099600 "High-Performance Coatings" for high-performance and special-use coatings.
 - 3. Section 099113 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.
 - 4. Section 099300 "Staining and Transparent Finishing" for surface preparation and the application of wood stains and transparent finishes on interior wood substrates.

1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
- B. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- C. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.
- D. Paint mockups as required per owners and architect.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
 - 1. Product name or title of material.
 - 2. Product description (generic classification or binder type).
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Contents by volume, for pigment and vehicle constituents.
 - 5. Thinning instructions.
 - 6. Application instructions.
 - 7. Color name and number.
 - 8. VOC content.
- B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Benjamin Moore & Co.
 2. Glidden Professional.
 3. Sherwin-Williams Company (The).
- B. Products: Subject to compliance with requirements, provide one of the products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Low-Emitting Materials: For field applications that are inside the weatherproofing system, 90 percent of paints and coatings shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- D. Colors: Match Architect's samples.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Masonry (Clay and CMUs): 12 percent.
 - 3. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed in equipment rooms:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Tanks that do not have factory-applied final finishes.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - 2. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - g. Other items as directed by Architect.
 - 3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Traffic Surfaces:
 - 1. Concrete Floor Sealer System MPI INT 3.2F:
 - a. Topcoat: Sealer, solvent based, for concrete floors, MPI #104.
 - 1) Benjamin Moore: Insl-x, Tuffcrete SB Acrylic Waterproofing Concrete Stain Clear.
 - 2) PPG Architectural Finishes, Inc: 99-127 MegaSeal HSPC Clear Primer/Sealer.
 - 3) Sherwin Williams Company, (The): H&C Colortop Concrete Sealer.
 - b. Surfaces: Sealed concrete floors in mechanical, electrical, and technology rooms.
- B. CMU Substrates:
 - 1. Institutional Low-Odor/VOC Latex System MPI INT 4.2E:
 - a. Block Filler: Block filler, latex, interior/exterior, MPI #4.
 - 1) Sherwin Williams Company, (The): Heavy Duty Block Filler.
 - 2) Benjamin Moore: Ultra Spec, Int/Ext High-Build Masonry Block Filler.
 - 3) PPG Architectural Finishes, Inc: Glidden Professional, Concrete Coatings Block Filler Interior/Exterior Primer.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC, Egg Shell (MPI Gloss Level 3), MPI #147.

- 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Semi-Gloss – In lieu of MPI#147](#)
- 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Gloss.
- 3) PPG Architectural Finishes, Inc: Dulux, Ultra Zero VOC Interior Latex Semi-Gloss.

C. Steel Substrates:

1. Water-Based Dry-Fall System MPI INT 5.1C:

- a. Prime Coat: Primer, alkyd, quick dry, for metal, MPI #76.
 - 1) Sherwin Williams Company, (The): Pro Industrial Pro-Cryl Universal Metal Primer.
 - 2) Benjamin Moore: N/A.
 - 3) PPG Architectural Finishes, Inc: Devco Coatings, Devguard 4160.
- b. Topcoat: Dry fall, latex, flat, MPI #118.
 - 1) Sherwin Williams Company, (The): Pro Industrial, Waterborne Acrylic Dryfall.
 - 2) Benjamin Moore: Benjamin Moore Dry Fall, Latex Dry Fall Flat.
 - 3) PPG Architectural Finishes, Inc: Speedhide, Interior Dry Fog Spray Paint.
- c. Surfaces: Exposed metal decking, trusses, structural steel and metal joists.

D. Galvanized-Metal Substrates:

1. Institutional Low-Odor/VOC Latex System MPI INT 5.3N:

- a. Prime Coat: Primer, galvanized, water based, MPI #134.
 - 1) Sherwin Williams Company, (The): Pro Industrial, Pro-Cryl Universal Primer.
 - 2) Benjamin Moore: Ultra Spec HP, Acrylic Metal Primer.
 - 3) PPG Architectural Finishes, Inc: Dulux Weatherguard, Exterior Latex Primer..
- b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
- c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss (MPI Gloss Level 5), MPI #147.
 - 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Semi-Gloss – In lieu of MPI#147](#)
 - 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Gloss.
 - 3) PPG Architectural Finishes, Inc: PPG Paints, Speedhide Zero Interior Zero VOC Latex Semi-Gloss.
- d. Surfaces: Exposed metal decking and galvanized metal surfaces.

E. Gypsum Board and Substrates:

1. Institutional Low-Odor/VOC Latex System MPI INT 9.2M:

- a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.

- 1) Sherwin Williams Company, (The): ~~Harmony, Interior Latex Primer~~[ProMar 200 Zero VOC Primer B28](#)
 - 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Primer.
 - 3) PPG Architectural Finishes, Inc: PPG Paints, Speedhide Zero Interior Zero VOC Latex Sealer.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC, flat (MPI Gloss Level 1), MPI #143.
 - 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Flat B30 Series](#)
 - 2) Benjamin Moore: Ultra Spec 500, Interior Flat Finish.
 - 3) PPG Architectural Finishes, Inc: Speedhide Zero Interior Zero VOC Latex Flat.
 - d. Surfaces: Drywall ceilings and soffits subject to no abuse.
2. Institutional Low-Odor/VOC Latex System MPI INT 9.2M:
 - a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Primer](#)
 - 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Primer.
 - 3) PPG Architectural Finishes, Inc: PPG Paints, Speedhide Zero Interior Zero VOC Latex Sealer.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC (MPI Gloss Level 3), MPI #145.
 - 1) Sherwin Williams Company, (The): [ProMar 200 HP Zero VOC Egg-Shell](#).
 - 2) Benjamin Moore: Ultra Spec 500, Interior Eggshell.
 - 3) PPG Architectural Finishes, Inc: Dulux, Ultra Zero VOC Int. Latex Pearl.
 - d. Surfaces: Drywall walls in administrative areas.
3. Institutional Low-Odor/VOC Latex System MPI INT 9.2M:
 - a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Primer](#).
 - 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Primer.
 - 3) PPG Architectural Finishes, Inc: PPG Paints, Speedhide Zero Interior Zero VOC Latex Sealer.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss (MPI Gloss Level 5), MPI #147.
 - 1) Sherwin Williams Company, (The): [ProMar 200 Zero VOC Semi-Gloss – In lieu of MPI#147](#)
 - 2) Benjamin Moore: Ultra Spec 500, Waterborne Interior Gloss.
 - 3) PPG Architectural Finishes, Inc: Dulux, Ultra Zero VOC Interior Latex Semi-Gloss.

- d. Surfaces: Drywall walls in classrooms and student-occupied areas.

END OF SECTION 099123

SECTION 123216 - MANUFACTURED PLASTIC-LAMINATE-FACED CASEWORK

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. Plastic-laminate-faced wood cabinets of stock design.
2. Custom millwork.
3. Accessories common to casework.

B. Related Sections:

1. Division 06 Section "Rough Carpentry" for wood blocking for anchoring casework.
2. Division 06 Section "Interior Finish Carpentry."
3. Division 08 Section "Glazing" for glass installed as display case doors and shelving.
4. Division 09 Section "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring casework.
5. Division 09 Section "Resilient Base and Accessories" for resilient base applied to plastic-laminate-faced casework.
6. Division 12 Section "Simulated Stone Countertops."
7. Division 22 Plumbing, Division 23 Mechanical, and Division 26 Electrical Sections.
 - a. Installation of service fixtures is included under mechanical work of Division 23 and electrical work of Division 26.
 - b. Furnishing and installation of waste lines and traps are specified in Division 22.

1.3 DEFINITIONS

- A. Definitions in the AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" apply to the work of this Section.
- B. MDF: Medium-density fiberboard.
- C. Hardwood Plywood: A panel product composed of layers or plies of veneer, or of veneers in combination with lumber core, hardboard core, MDF core, or particleboard core, joined with adhesive, and faced both front and back with hardwood veneers.
- D. Exposed Portions of Cabinets: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 48 inches (1220 mm) above floor, and surfaces visible in open cabinets.
- E. Semiexposed Portions of Cabinets: Surfaces behind opaque doors, such as interiors of cabinets, shelves, dividers, interiors and sides of drawers, and interior faces of doors. Tops of cases 78 inches (1980 mm) or more above floor are defined as semiexposed.

- F. Concealed Portions of Cabinets: Surfaces not usually visible after installation, including sleepers, web frames, dust panels, and ends and backs that are placed directly against walls or other cabinets.

1.4 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that casework can be supported and installed as indicated.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show fabrication details, including types and locations of hardware. Show installation details, including field joints and filler panels. Include layout of units with relation to surrounding walls, doors, windows, and other building components. Coordinate shop drawings with other work involved. Indicate manufacturer's catalog numbers for casework.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.
- C. Sample Warranty: For special warranty.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer for installation of units required for this Project.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver manufactured wood casework only after painting, utility roughing-in, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas where environmental conditions meet requirements specified in "Project Conditions" Article.
- B. Keep finished surfaces covered with polyethylene film or other protective covering during handling and installation.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install casework until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period. Maintain temperature and relative humidity during the remainder of the construction period in range recommended for Project location by the AWI's, AWMAC's, and WI's "Architectural Woodwork Standards."

- B. Field Measurements: Verify actual dimensions of construction contiguous with manufactured wood casework by field measurements before fabrication.
- C. Locate concealed framing, blocking, and reinforcements that support casework by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of casework that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Delamination of components or other failures of glue bond.
 - b. Warping of components.
 - c. Failure of operating hardware.
 - d. Deterioration of finishes.
 - 2. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Plastic-Laminate-Faced Manufactured Casework:
 - a. Nevamar Twilight Oak W08800

2.2 CASEWORK, GENERAL

- A. Quality Standard: Unless otherwise indicated, comply with the AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" for grades of casework indicated for construction, finishes, installation, and other requirements.
 - 1. Grade: Custom.
 - 2. Provide certificates from AWI certification program indicating that casework, including installation, complies with requirements of grades specified.
- B. Product Designations: Drawings indicate sizes, configurations, and finish materials of manufactured plastic-laminate-faced cabinets by referencing designated manufacturer's catalog numbers. Other manufacturers' of casework listed in this section shall provide identical sizes and door and drawer configurations, of same finish materials, and complying with the Specifications.

2.3 CASEWORK

- A. Design:
 - 1. Flush overlay.

- B. Exposed Materials:
 - 1. High pressure decorative laminate complying with NEMA LD3, Grade GP-28.
 - 2. Colors and Patterns: As selected by Architect from plastic laminate manufacturers' full ranges.
 - 3. Unless otherwise indicated, provide specified edgebanding on all exposed edges.
- C. Semiexposed Materials:
 - 1. High pressure decorative laminate complying with NEMA LD3, Grade CL-30 unless otherwise indicated.

2.4 MATERIALS

- A. Low-Emitting Materials: Adhesives and composite wood products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers." Adhesives and composite wood products shall not contain urea formaldehyde.
- B. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.
- C. Hardwood Plywood: HPVA HP-1, particleboard core except where veneer core is indicated; that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- D. Softwood Plywood: DOC PS 1.
- E. Particleboard: ANSI A208.1, Grade M-2; that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- F. MDF: ANSI A208.2, Grade 130; that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- G. Hardboard: ANSI A135.4, Class 1 Tempered.
- H. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
 - 1. Manufacturers: Subject to compliance with requirements, Architect shall select from manufacturers' full ranges of standard products by all of the following:
 - a. Arborite; a division of ITW Canada.
 - b. Formica Corporation.
 - c. Nevamar Company, LLC; a division of Panolam Industries International Inc.
 - d. Panolam Industries International Inc.
 - e. Wilsonart International.
- I. Plastic Laminate Accent (WHERE LOCATED/ WHAT ROOM):
 - 1. Manufacturers: Subject to compliance with requirements, Architect shall select from manufacturers' full ranges of standard products by all of the following:
 - a. Pionite, a division of Panolam Industries International Inc.: xxxxxx
 - b. Formica Corporation: xxxxx
 - c. Wilsonart International: xxxxx

- J. Edgebanding for Plastic Laminate: Rigid PVC extrusions, through color with satin finish, 3 mm thick at doors and drawer fronts, 1 mm thick elsewhere.
- K. Edgebanding for Thermoset Decorative Panels: PVC or polyester edge banding complying with LMA EDG-1 and matching thermoset decorative panels.
- L. Glass for Glazed Doors: Clear tempered glass complying with ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3; not less than 5.0 mm thick.
- M. Architectural Moldings for Millwork:
 - 1. Reveal Molding: Anodized aluminum channel for reveals in dimensions as indicated on Architectural drawings. Eagle Mouldings: Channels or Architect approved equal. Finish shall be as selected by Architect from manufacturer's full range of anodized finishes.
 - 2. Outside Corner Molding: Anodized aluminum 90-degree corner trim for outside corners in dimensions as indicated on Architectural drawings. Eagle Mouldings: Out Corners or Architect approved equal. Finish shall be as selected by Architect from manufacturer's full range of anodized finishes.
 - 3. Divider Molding: Anodized aluminum divider trim for panel joints in dimensions as indicated on Architectural drawings. Eagle Mouldings: Dividers or Architect approved equal. Finish shall be as selected by Architect from manufacturer's full range of anodized finishes.

2.5 COLORS AND FINISHES

- A. Thermoset Decorative Panel Colors, Patterns, and Finishes: As selected by Architect from casework manufacturer's full range.
- B. Plastic-Laminate Colors, Patterns, and Finishes: As selected by Architect from all specified plastic-laminate manufacturers' full ranges.
- C. PVC Edgebanding Color: As selected from PVC edge banding manufacturer's full range of products by all of the following:
 - 1. Charter Industries, Inc.
 - 2. Doellken-Woodtape.
 - 3. Rehau.

2.6 FABRICATION

- A. Plastic-Laminate-Faced Cabinet Construction: As required by referenced quality standard, but not less than the following:
 - 1. Bottoms and Ends of Cabinets, and Tops of Wall Cabinets and Tall Cabinets: 3/4-inch (19-mm) particleboard, plastic-laminate faced.
 - 2. Shelves: 1-inch (25.5-mm) particleboard, plastic-laminate faced.
 - 3. Plastic Shelves: Shelf cover molded of high strength polyethylene with continuous ventilation grooves and a radiused front edge over a melamine laminated particleboard core. Shelf to be permanently attached with concealed fasteners. Shelf cover shall not be removable and shall not delaminate from core.
 - 4. Bottoms and Ends of Cabinets, and Tops of Wall Cabinets and Tall Cabinets: 3/4-inch (19-mm) particleboard, plastic-laminate faced.
 - 5. Backs of Cabinets: 1/2-inch (12.7-mm) particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semiexposed surfaces.
 - 6. Drawer Fronts: 3/4-inch (19-mm) particleboard, plastic-laminate faced.

7. Drawer Sides and Backs: 1/2-inch (12.7-mm) thermoset decorative panels, with glued dovetail or multiple-dowel joints.
 8. Drawer Bottoms: 1/4-inch (6.4-mm) thermoset decorative panels glued and dadoed into front, back, and sides of drawers. Use 1/2-inch (12.7-mm) material for drawers more than 24 inches (600 mm) wide.
 9. Doors: 3/4-inch (19-mm) MDF, plastic-laminate faced.
 10. Paper storage drawers: Construct paper drawers with retaining hood at the rear of each drawer.
- B. Filler Strips: Provide as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as cabinets.

2.7 CASEWORK HARDWARE AND ACCESSORIES

- A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard satin-finish, commercial-quality, heavy-duty hardware.
1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.
- B. Butt Hinges: Stainless-steel or Chrome-plated, semi-concealed, 5-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide 2 hinges for doors less than 48 inches (1220 mm) high and 3 hinges for doors more than 48 inches (1220 mm) high.
- C. Pulls: Solid stainless-steel or chrome-plated brass wire pulls, fastened from back with two screws.
- D. Door Catches:
1. Zinc-plated or powder-coated, nylon-roller spring catch. Provide 2 catches on doors more than 48 inches (1220 mm) high.
 2. Provide metal chain link catch at all instances where a door swing will project within 1 inch of adjacent cabinet, appliance, wall, or similar.
- E. Drawer Slides: BHMA A156.9, Type B05091.
1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; zinc-plated, steel ball-bearing slides.
 2. Box Drawer Slides: Grade 1HD-100, for drawers not more than 6 inches (150 mm) high and 24 inches (600 mm) wide.
 3. File Drawer Slides: Grade 1HD-200, for drawers more than 6 inches (150 mm) high or 24 inches (600 mm) wide.
- F. Label Holders: Stainless steel or chrome plated, sized to receive standard label cards approximately 1 by 2 inches (25 by 51 mm), attached with screws or brads.
1. Provide label holders where indicated.
- G. Drawer and Hinged Door Locks: Cylindrical (cam) type, 5-pin tumbler, brass with chrome-plated finish, and complying with BHMA A156.11, Grade 1.
1. Provide locks on all doors and drawers.
 2. Locks shall be stamped with identifying numbers and keys shall be provided by manufacturer and available from a registered locksmith.
 3. Provide a minimum of two keys per lock and six master keys.
 4. Keys and sequencing of lock system shall be determined when shop drawings are issued.

- H. Adjustable Shelf Supports: 2-pin locking plastic shelf rests complying with BHMA A156.9, Type B04013.
 - I. Grommets for Cable Passage: 2-inch (51-mm) OD, molded-plastic grommets and matching plastic caps with slot for wire passage.
 - J. Wire-management tray system: Wire mesh cable tray constructed of 5 and 6-mm diameter steel wires, welded on 2-inch by 4-inch (50-mm x 100-mm) intersections with zinc or black powder coat paint finish; install with wire mesh cable tray manufacturer's brackets and hangers as required. Equal to Chatsworth Products, Inc. Ontrac Wire Mesh Cable Tray System.
 - K. Wire-management chase: 2-inch by 2-inch (50-mm x 50-mm) molded plastic wire manager for wire passage; install with mechanical fasteners per manufacturer's recommendations. Paint to match wall finish.
 - L. Countertop Support Brackets: Open style 1-1/4-inch wide x 1/4-inch thick welded steel bracket with 1/4-inch thick gusset between the support flanges that is positioned with its broad surface showing to the front of the bracket. Design shall allow for installation of wire management tray beneath countertop. Bracket shall have pre-drilled holes for mounting and powder-coat finish. Size shall be determined by depth of countertop.
 - M. Vinyl Fabric for Display Cases: Mildew resistant, washable, complying with FS CCC-W-408D; weighing not less than 20 oz./sq. yd.; with flame-spread index of 25 or less when tested according to ASTM E 84. Architect will select from manufacturer's full range of colors (minimum 100) of material specified in section 097200 "Wall Coverings" for this project.
 - N. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - 1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - 2. Satin Stainless Steel: BHMA 630.
 - O. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.
 - P. Fasteners used in pressure-preservative-treated lumber shall be hot-dip galvanized or stainless steel.
- 2.8 PLASTIC-LAMINATE COUNTERTOPS & FABRIC UPHOLSTERED BENCHES (Extended Learning Areas)
- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades indicated for construction, installation, and other requirements.
 - 1. Provide certificates from AWI certification program indicating that countertops, including installation, comply with requirements of grades specified.
 - B. Grade: Custom.
 - C. Certified Wood: Plastic-laminate countertops shall be made from wood products certified as "FSC Pure"[or "FSC Mixed Credit"] according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
 - D. High-Pressure Decorative Laminate: NEMA LD 3, Grade HGS.

1. Manufacturers: Subject to compliance with requirements, Architect shall select from manufacturers' full ranges of standard products by all of the following:
 - a. Arborite; a division of ITW Canada.
 - b. Formica Corporation
 - c. Nevamar Company, LLC; a division of Panolam Industries International Inc.
 - d. Panolam Industries International, Inc.
 - e. Wilsonart International; Div. of Premark International, Inc.
- E. Chemical-Resistant, High-Pressure Decorative Laminate: NEMA LD 3, Grade HGP, and as follows:
 1. Laminate has the following ratings when tested with indicated reagents according to NEMA LD 3, Test Procedure 3.9.5:
 - a. Nitric Acid (30 Percent): Moderate effect.
 - b. Sulfuric Acid (77 Percent): Moderate effect.
 - c. Hydrochloric Acid (37 Percent): Moderate effect.
 - d. Phosphoric Acid (75 Percent): No effect.
 - e. Acetic Acid (98 Percent): No effect.
 - f. Formaldehyde: No effect.
 - g. Ethyl Acetate: No effect.
 - h. Ethyl Ether: No effect.
 - i. Phenol (85 Percent): Moderate effect.
 - j. Benzene: No effect.
 - k. Xylene: No effect.
 - l. Butyl Alcohol: No effect.
 - m. Furfural: No effect.
 - n. Methyl Ethyl Ketone: No effect.
 - o. Sodium Hydroxide (25 Percent): No effect.
 - p. Sodium Sulfide (15 Percent): No effect.
 - q. Ammonium Hydroxide (28 Percent): No effect.
 - r. Zinc Chloride: No effect.
 - s. Gentian Violet: No effect.
 - t. Methyl Red: No effect.
 2. Products: Subject to compliance with requirements, Architect shall select from manufacturers' full ranges of standard and made-to-order products by all of the following:
 - a. Arborite; a division of ITW Canada; Arbochem Laminate.
 - b. Formica Corporation; Chemtop2.
 - c. Nevamar Company, LLC; a division of Panolam Industries International Inc.; Chemarmor.
 - d. Panolam Industries International, Inc.; Chemguard.
 - e. Wilsonart International, Div. of Premark International, Inc.; Chemsurf.
- F. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 1. As indicated by manufacturer's designations.
 2. Match Architect's sample.
 3. As selected by Architect from manufacturer's full range in the following categories:
 - a. Solid colors, matte or smooth textured low-sheen finish.
 - b. Wood grains, matte or smooth textured low-sheen finish.
 - c. Patterns, matte or smooth textured low-sheen finish.
- G. Edge Treatment for tops and Back- and Side-Splashes: 3-mm PVC edging.
- H. Core Material: Particleboard.
- I. Core Material at Sinks: Particleboard made with exterior glue or exterior-grade plywood.
- J. Core Thickness for Countertops: 1-1/8 inch.

- K. Core Thickness for Back- and Side-Splashes: 3/4-inch, maximum.
- L. Backer Sheet: Provide plastic-laminate backer sheet, NEMA LD 3, Grade BKL, on underside of countertop substrate.
- M. Fabric Upholstered Cushions: Refer to Division 12 Section "Custom Upholstered Cushions" for upholstered cushion fabrication and installation on manufactured wood casework.

2.9 FABRIC UPHOLSTERED BENCHES

- A. Bench tops, General: Provide smooth, clean exposed tops and edges in uniform plane free of defects.
- B. Plastic-Laminate Tops: Plastic-laminate sheet, shop bonded to both sides of 1-1/8-inch (29-mm) particleboard. Sand surfaces to which plastic laminate is to be bonded. Refer to Division 12 Section "Plastic-Laminate-Clad Countertops" for bench and countertop surfaces.
 - 1. Plastic Laminate for 1 inch from front edge of Flat Tops: Grade HGS.
 - 2. Provide 3-mm PVC edging on front edge of top, and on ends of tops.
- C. Fabric Upholstered Cushions: Refer to Division 12 Section "Custom Upholstered Cushions" for upholstered cushion fabrication and installation on manufactured wood casework. Plastic laminate back- and side-splashes shall be 3/4-inch thick.

2.10 HARDWARE FOR DISPLAY CASE GLASS INSTALLATION

- A. Hardware: Sliding Glass System to include Continuous upper channel, Continuous lower track, Ball-Bearing Carrier, Door Shoe and Lock.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Knape & Vogt: P992 Large Glass Door System or comparable product by one of the following:
 - a. Blumcraft of Pittsburgh; Laurence, C.R. Co., Inc.
 - b. EPCO- Engineered Products Company.
 - c. Knape & Vogt.
 - 2. Dimensions: As indicated on Drawings.
 - 3. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - a. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 - b. Satin Stainless Steel: BHMA 630.
 - c. Fasteners: Fabricated of same basic metal and alloy as fastened metal and matching in finished color and texture where fasteners are exposed.
 - 4. Gaskets: Manufacturer's standard, compatible with decorative glass type indicated.
 - 5. Anchors and Inserts: Provide devices as required for hardware installation. Provide metal expansion-bolt devices for drilled-in-place anchors. Provide galvanized or stainless steel anchors and inserts for applications on inside face of walls and where indicated.
 - 6. Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063.
 - 7. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081 or BHMA A156.9, B04102; with shelf brackets, B04112.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CASEWORK INSTALLATION

- A. Grade: Install cabinets to comply with same grade as item to be installed.
- B. Install level, plumb, and true; shim as required, using concealed shims. Where manufactured wood casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.
- C. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within 1/16 inch of a single plane. Align similar adjoining doors and drawers to a tolerance of 1/16 inch. Bolt adjacent cabinets together with joints flush, tight, and uniform.
 - 1. Fasten cabinets to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners spaced 24 inches (600 mm) o.c.
 - 2. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced 16 inches (400 mm) o.c. Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than two fasteners.
- D. Wall Cabinets: Hang cabinets straight, level and plumb. Adjust fronts and bottoms within 1/16 inch (1.5 mm) of a single plane. Fasten to hanging strips, masonry, or framing, blocking, or reinforcements in walls or partitions. Align similar adjoining doors to a tolerance of 1/16 inch (1.5 mm).
- E. Fasten cabinets to adjacent cabinets and to masonry, framing, wood blocking, or reinforcements in walls and partitions to comply with the AWT's, AWMAC's, and WT's "Architectural Woodwork Standards."
- F. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- G. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.
- H. Side edge of countertop at end of run of base cabinets must extend 1/2" beyond the base cabinet.
- I. Where base cabinet meets a wall or a tall cabinet, a side splash must be installed.
- J. Protective surface material must be applied to all horizontal countertop surfaces and edges, to prevent scratches and damage from all trades, until final project completion.

3.3 CLEANING

- A. Repair or remove and replace defective work as directed on completion of installation.

- B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- C. Keys and Accessories: All keys and loose accessories items shall be tagged with identification, boxed, listed and turned over to the Owner at the completion of the work.

END OF SECTION 123216

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

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. Solid-surface-material countertops and backsplashes.
- 2. Solid surface material window sills.

B. Related Sections:

- 1. Division 06 Section "Rough Carpentry" for wood blocking for anchoring casework.
- 2. Division 06 Section "Interior Finish Carpentry."
- 3. Division 09 Section "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring casework.
- 4. Division 12 Section "Manufactured Plastic-Laminate-Faced Casework".

1.3 ACTION SUBMITTALS

A. Product Data: For countertop materials.

B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

- 1. Show locations and details of joints.
- 2. Show direction of directional pattern, if any.

C. Samples for Initial Selection: For each type of material exposed to view.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For solid surface material countertops to include in maintenance manuals. Include Product Data for care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of countertops.

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.8 COORDINATION

- A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

- A. Solid Surface Material: Solid sheets of homogeneous-filled plastic resin complying with ICPASS-1.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Corian Sorrel
- B. Particleboard: ANSI A208.1, Grade M-2.

2.2 COUNTERTOP FABRICATION

- A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."
 - 1. Grade: Custom.
- B. Configuration:
 - 1. Front: Straight, slightly eased at top.
 - 2. Backsplash: Straight, slightly eased at corner.
 - 3. End Splash: Matching backsplash.

- C. Countertops: 3/4-inch- thick, solid surface material.
- D. Fabricate tops with shop-applied edges unless otherwise indicated. Comply with solid surface material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
 - 1. Fabricate with loose backsplashes for field assembly.
- E. Joints: Fabricate countertops in sections for joining in field, with joints at locations indicated.
 - 1. Joint Locations: Not where a countertop section less than 36 inches long would result, unless unavoidable.
- F. Cutouts and Holes:
 - 1. Fittings: Drill countertops in shop for power access and similar items in reception desks.

2.3 INSTALLATION MATERIALS

- A. Adhesive: Product recommended by solid surface material manufacturer.
 - 1. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to receive solid surface material countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install countertops level to a tolerance of 1/8 inch in 8 feet, 1/4 inch maximum. Do not exceed 1/64-inch difference between planes of adjacent units.

- B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Predrill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
- C. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.
- D. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
- E. Bond joints with adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.
 - 1. Install metal splines in kerfs in countertop edges at joints. Fill kerfs with adhesive before inserting splines and remove excess immediately after adjoining units are drawn into position.
 - 2. Clamp units to temporary bracing, supports, or each other to ensure that countertops are properly aligned and joints are of specified width.
- F. Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
- G. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.
 - 1. Seal edges of cutouts in particleboard subtops by saturating with varnish.
- H. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 123661.16