SEWER LINE REPLACEMENT & INTERIOR RENOVATIONS

100% PERMITTING DOCUMENTS

JUNE 19, 2025

PROJECT MANUAL FOR:
SC HOUSING AUTHORITY: SEWER LINE REPLACEMENT & INTERIOR RENOVATIONS

OWNER	HOUSING AUTHORITY OF FLORENCE, SC 1343 DIZZY GILLESPIE DRIVE CHERAW, SOUTH CAROLINA 29520 ATTN: MICHAEL MANUS
ARCHITECT OF RECORD	BROWNSTONE DESIGN LLC. 1330 LADY STREET, SUITE 500 COLUMBIA, SOUTH CAROLINA 29201 AOR: HUNTER MCKENZIE PRIMARY POC: JORDAN GARZA PHONE 803.376.6044
PLUMBING ENGINEER	PERKINS CONTRACTORS & ENGINEERS, LLC. 612 VALLEYWOOD COURT COLUMBIA, SOUTH CAROLINA 29212 ATTN: RAYMOND PERKINS PHONE: 803.528.1628
CONSTRUCTION MANAGER	BROWNSTONE CONSTRUCTION GROUP 1330 LADY STREET, SUITE 500 COLUMBIA, SOUTH CAROLINA 29201 ATTN: THURMOND PORTER PHONE 803.376.6044

END OF SECTION 000101

SECTION 000102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: Sewer Line Replacement & Interior Renovations.

1343 Dizzy Gillespie Drive.

Cheraw, South Carolina 29520.

B. Hereinafter, the Housing Authority of Florence, South Carolina will be referred to as Owner.

C. Owner's Project Manager: Mr. Michael Manus, Facility Director.
1. Department: Facilities.
2. Address: 1343 Dizzy Gillespie Drive.
3. City, State, Zip: Cheraw, SC 29520.
4. Phone/Fax: 803-376-6044.
5. E-mail: MMANUS@HAFSC.ORG.

1.02 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to and request for qualifications from General Contractors for the construction of the project described below.

B. Bids should include proof of General Contracting License, Certificate of Insurance, and Bid Bond (see bid bond section below for amount). They should also include unit labor prices for each trade. Davis-Bacon wages will be required for this project.

C. Liquidated damages will be collected at a rate of $750.00 per day should the project not be completed by the specific date listed below.

D. Payment and Performance Bonds will be required for 100% of contract.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: The project generally consists of, but may not be limited to, the following work: Replacement of all interior sewer and water supply lines, replacement of exterior drain pipes up to 5’ outside of buildings, and additional interior renovations in 30 units at the Cheraw location. Provide labor to install all new equipment and fixtures in bathrooms. Provide labor to install new base cabinets, wall cabinets, countertops, sinks, and faucets in kitchens. Provide labor to remove and install wall insulation, drywall, and re-paint areas that have been demo’ed to install new plumbing pipe. Contractor to furnish rebar dowels, new rebar, concrete to finish grade after replacing exterior pipe. Provide labor to prepare and repaint entire apartment. Provide labor to prepare and install new flooring for each ground floor apartment. This project will be a labor only project. All materials will be furnished by the Owner.

1.04 PROCUREMENT TIMETABLE

A. Mandatory Pre-Bid Site Tour: 06-26-2025 at 10 AM.

B. Mandatory Pre-Bid Address: 344 Huger Street, Cheraw, SC 29520.

C. Last Request for Information Due: July 3rd, 2025 at 4:00 PM.

D. Bid Due Date: 07-08-2025, before 2 PM local time.

E. Bid Opening: 07-08-2025, 2 PM local time.

F. Notice to Proceed: 07-21-2025.

G. Bids May Not Be Withdrawn Until: 30 days after due date.

H. Contract Time: 365 calendar days (1 Year).

I. Desired Construction Start: Not later than 07-21-2025.

J. Desired Substantial Completion Date: 07-20-2026.

K. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.05 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be obtained:
   1. From the Owner's website.

1.06 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum, no less than 5 percent of the Bid Amount, on AIA A310 Bid Bond Form .

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 000102

SECTION 000103
PROJECT DIRECTORY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Identification of project team members and their contact information.

1.02 OWNER:

A. Name: Housing Authority of Florence, South Carolina
   1. Address Line 1: 1343 Dizzy Gillespie Drive.
   2. City: Cheraw.
   3. State: South Carolina.
   4. Zip Code: 29520.

B. Primary Contact: All correspondence from the Contractor to the Project Manager will be through this party, unless alternate arrangements are mutually agreed upon at the pre-construction meeting.
   1. Title: Facility Director.
   2. Name: Mr. Michael Manus.
   3. Email: MMANUS@HAFSC.ORG.

1.03 CONSULTANTS:

A. Architect: Design Professional of Record. All correspondence from the Contractor regarding construction documents authored by Architect's consultants will be through this party, unless alternate arrangements are mutually agreed upon at the pre-construction meeting.
   1. Company Name: Brownstone Design.
      a. Address Line 1: 1330 Lady Street.
      b. Address Line 2: Suite 500.
      c. City: Columbia.
      d. State: South Carolina.
      e. Zip Code: 29201.
      f. Telephone: 803-376-6044.
   2. Primary Contact:
      a. Title: Architect.
      b. Name: Jordan Garza.
      c. Email: JGARZA@BSTONEGROUP.COM.

B. Mechanical Engineering Consultant - Plumbing:
   1. Company Name: Perkins Contractors & Engineers LLC.
      a. Address Line 1: 612 Valleywood Court
      b. City: Columbia.
      c. State: South Carolina.
      d. Zip Code: 29212.
      e. Telephone: 803-528-1628.
   2. Primary Contact:
      a. Title: Chief of Staff.
      b. Name: Raymond Perkins.
      c. Email: PERKRAY@GMAIL.COM

1.04 CONSTRUCTION MANAGER:

A. Company Name: Brownstone.
   1. Address Line 1: 1330 Lady Street.
   2. Address Line 2: Suite 500.
   3. City: Columbia.
   4. State: South Carolina.

5. Zip Code: 29201.
6. Telephone: 803-376-6044.

B. Primary Contact:
1. Title: Senior Project Manager.
2. Name: Thurmond Porter.
3. Email: TPORTER@BSTONEGROUP.COM.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 000103

SECTION 000111
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DIVISION 1 -- GENERAL REQUIREMENTS

DIVISION 2 -- SITE CONSTRUCTION

DIVISION 3 -- CONCRETE

DIVISION 6 -- WOOD AND PLASTICS

DIVISION 7 -- THERMAL AND MOISTURE PROTECTION

DIVISION 9 -- FINISHES

DIVISION 12 -- FURNISHINGS

END OF SECTION 000111

SECTION 000115
LIST OF DRAWING SHEETS

SHEET NUMBER	SHEET NAME
G001	TITLE SHEET, INDEX OF DRAWINGS, LOCATION MAP, SYMBOLS, ABBREVIATIONS
AS101	ARCHITECTURAL SITE PLAN
A101	1, 2, & 3 BEDROOM FLOOR PLANS
A102	4 & 5 BEDROOMS FLOOR PLANS
P1	BUILDING E, PLUMBING FLOOR PLAN
P2	BUILDING G & H PLUMBING FLOOR PLAN
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P7	5 BUILDING K – SEWER FLOOR PLAN
P8	5 BUILDING K – WATER FLOOR PLAN
P9	PLUMBING SCHEDULES & DETAILS

END OF SECTION 000115

SECTION 001113
ADVERTISEMENT FOR BIDS

FROM:

1.01 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

A. Housing Authority of Florence, South Carolina

B. Address:
1343 Dizzy Gillespie Drive
Cheraw, South Carolina, 29520

1.02 AND THE ARCHITECT (HEREINAFTER REFERRED TO AS ARCHITECT):

A. Brownstone Design LLC.

B. Address:
1330 Lady Street
Suite 500
Columbia, South Carolina 29201

1.03 DATE: JUNE 19, 2025

1.04 TO: POTENTIAL BIDDERS

A. Your firm is invited to submit an offer under seal to Owner for construction of a facility located at the above address before 2 pm local standard time on the 8 day of July, 2025.

B. Bidders will be required to provide Bid security in the form of a Bid Bond of a sum no less than 5 percent of the Bid Amount.

C. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders.

D. Your offer will be required to be submitted under a condition of irrevocability for a period of 30 days after submission.

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

END OF SECTION 001113

SECTION 002113
INSTRUCTIONS TO BIDDERS

SUMMARY

1.01 THE INSTRUCTIONS IN THIS DOCUMENT AMEND OR SUPPLEMENT THE INSTRUCTIONS TO BIDDERS AND OTHER PROVISIONS OF THE BIDDING AND CONTRACT DOCUMENTS.

1.02 DOCUMENT INCLUDES

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

INVITATION

2.01 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner at 1343 Dizzy Gillespie, Cheraw, SC 29520 before 2 p.m. local standard time on 07-08-2025.

2.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete project named SC Housing Authority: Sewer Line Replacement & Interior Renovations for a Stipulated Sum contract, in accordance with Contract Documents.

BID DOCUMENTS AND CONTRACT DOCUMENTS

3.01 EXAMINATION

A. Bid Documents may be viewed at the FHA Website.

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

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

3.02 INQUIRIES/ADDENDA

A. Direct questions to Thurmond Porter, email; TPORTER@BSTONEGROUP.COM.

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

C. Verbal answers are not binding on any party.

SITE ASSESSMENT

4.01 PREBID CONFERENCE (MANDATORY)

A. A mandatory bidders conference has been scheduled for 10 a.m. on the 26 day of June at the location of 344 Huger Street, Cheraw, SC 29520.

B. Representatives of Brownstone will be in attendance.

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

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

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

B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealed with the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Owner's name on the outside.

5.02 BID INELIGIBILITY

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

END OF SECTION 002113

SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. Housing Authority of Florence, South Carolina
1343 Dizzy Gillespie Drive
Cheraw, South Carolina 29520

1.02 FOR:

A. Project: SC Housing Authority: Sewer Line Replacement & Interior Renovations

1.03 DATE: _____ (BIDDER TO ENTER DATE)

1.04 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)

A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip_____

1.05 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bid Documents prepared by _____ for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

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

C. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.
1. The cost of the required performance assurance bonds is _ _____ _dollars ($_____), in lawful money of the United States of America.

D. All applicable federal taxes are included and State of South Carolina taxes are included in the Bid Sum.

1.06 ACCEPTANCE

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

B. If this bid is accepted by Owner within the time period stated above, we will:
1. Execute the Agreement within seven days of receipt of Notice of Award.
2. Furnish the required bonds within seven days of receipt of Notice of Award.
3. Commence work within seven days after written Notice to Proceed of this bid.

1.07 CONTRACT TIME

A. If this Bid is accepted, we will:

B. Complete the Work in 52 calendar weeks from Notice to Proceed.

1.08 BID FORM SIGNATURE(S)

A. The Corporate Seal of

B. _____
(Bidder - print the full name of your firm)

C. was hereunto affixed in the presence of:

D. _____
(Authorized signing officer, Title)

E. (Seal)

F. _____

G. (Authorized signing officer, Title)

END OF SECTION 004100

SECTION 011000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: SC Housing Authority: Sewer Line Replacement & Interior Renovations

B. Owner's Name: Housing Authority of Florence, South Carolina.

C. Architect's Name: Brownstone Design LLC.

D. The project generally consists of, but may not be limited to, the following work: Replacement of all interior sewer and water supply lines, replacement of exterior drain pipes up to 5’ outside of buildings, and additional interior renovations in 30 units at the Cheraw location. Provide labor to install all new equipment and fixtures in bathrooms. Provide labor to install new base cabinets, wall cabinets, countertops, sinks, and faucets in kitchens. Provide labor to remove and install wall insulation, drywall, and re-paint areas that have been demo’ed to install new plumbing pipe. Contractor to furnish rebar dowels, new rebar, concrete to finish grade after replacing exterior pipe. Provide labor to prepare and repaint entire apartment. Provide labor to prepare and install new flooring for each ground floor apartment. This project will be a labor only project. All materials will be furnished by the Owner.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of alterations work is indicated on drawings.

B. Plumbing: Replace existing system with new construction.

1.04 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

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

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

D. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
   1. Locate and conduct construction activities in ways that will limit disturbance to site.

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

C. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours of 9AM - 6PM.

D. Utility Outages and Shutdown:
   1. Limit shutdown of utility services, arranged at least 24 hours in advance with Owner.
   2. Prevent accidental disruption of utility services to other facilities.

END OF SECTION 011000

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

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

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

1.02 SCHEDULE OF VALUES

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

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

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

D. Provide a signed physical copy that has been notarized to Owner each Pay Application submittal.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

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

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

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

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

E. Execute certification by signature of authorized officer.

F. Submit one electronic and one hard-copy, signed and physically notarized, of each Application for Payment.

1.04 MODIFICATION PROCEDURES

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

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

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.

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

1.05 APPLICATION FOR FINAL PAYMENT

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

END OF SECTION 012000

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Progress meetings.

D. Construction progress schedule.

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

F. Requests for Interpretation (RFI) procedures.

G. Submittal procedures.

1.02 REFERENCE STANDARDS

A. AIA G716 - Request for Information; 2004.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

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

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

1.04 PROJECT COORDINATOR

A. Project Coordinator: Construction Manager.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for project access, traffic, and parking.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 011000 - Summary.

F. Make the following types of submittals to Architect through the Project Coordinator:

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.

2. Architect.
3. Contractor.

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

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

3.02 CONSTRUCTION PROGRESS SCHEDULE

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

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

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

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

E. Submit updated schedule with each Application for Payment.

3.03 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Discrete and consecutive RFI number, and descriptive subject/title.
3. Issue date and requested reply date.
4. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).

C. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

END OF SECTION 013000

SECTION 013050
DESIGN PROCEDURES AND SUBSTANTIATION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for design of the facility, based on the design criteria specified.

B. Substantiation requirements.

1.02 DEFINITIONS

A. Substantiation: All forms of evidence that are used to predict whether the design will comply with the requirements or to verify that the construction based on the design actually does comply. During Preliminary Design, Design Development, and Construction Documents, requirements to submit substantiation are primarily intended to forestall use of designs or constructions that will not comply. At any time before completion of construction, substantiation is presumed to be only a prediction and may subsequently be invalidated by actual results. The term substantiation is used to distinguish these forms of evidence from traditional submittals commonly required during the construction phase.

1.03 REFERENCE STANDARDS

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

1.04 QUALITY ASSURANCE

A. Qualifications of Testing/Inspection Agencies Performing Substantiation:
   1. Qualified and equipped to perform applicable tests/inspection.
   2. Regularly engaged in testing and inspection activities on a commercial basis.
   3. Authorized to operate in the State in which the project is located.
   4. Substantiation: Submittal of qualifications, based on ASTM E329.

PART 2 – NOT USED

PART 3 EXECUTION

3.01 PROGRESS DOCUMENTATION

A. Progress Schedule: As specified in the Conditions of the Contract.
   1. Submit updated schedule (Updated schedule will be submitted) whenever adjustments that change the Contract Times or Milestones are approved.

3.02 FIELD TESTING AND INSPECTION AS SUBSTANTIATION

A. Perform (Construction operations will include) all testing, observation, and inspection required by code and as specified.

B. Reports: Written report of each test/inspection; including complete details of conditions, methods, and results, signed by responsible individual.

END OF SECTION 013050

SECTION 013216
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

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

3.02 CONTENT

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

B. Identify each item by specification section number.

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

D. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

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

B. Identify the first work day of each week.

3.04 UPDATING SCHEDULE

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

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

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

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

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

F. Submit reports required to support recommended changes.

3.05 DISTRIBUTION OF SCHEDULE

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

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

END OF SECTION 013216

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Quality assurance.

B. References and standards.

C. Testing and inspection agencies and services.

D. Control of installation.

1.02 REFERENCE STANDARDS

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

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

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

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

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

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

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

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

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

2.02 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

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

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

D. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
    a. To provide access to Work to be tested/inspected.
    b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    c. To facilitate tests/inspections.
    d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

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

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

2.03 DEFECT ASSESSMENT

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

END OF SECTION 014000

SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

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

B. Special Inspections and Tests: Inspections and testing of materials, installation, fabrication, erection, or placement of components and connections mandated by Building Code to safeguard public welfare.
   1. Special inspections and tests are separate from and independent of tests and inspections conducted by Owner or Contractor for purposes of quality assurance and contract administration.

1.02 REFERENCE STANDARDS

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

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

C. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291; 2023.

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

1.03 SUBMITTALS

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

1.04 SPECIAL INSPECTION AND TESTING AGENCY

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

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

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

1.05 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC291.

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SPECIAL INSPECTIONS AND TESTING

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

B. Special inspections and testing will be performed in accordance with the Code for the following materials and project components:

1. Concrete.

3.02 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

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

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

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

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

END OF SECTION 014533

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

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

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

1.02 RELATED REQUIREMENTS

A. Section 015100 - Temporary Utilities.

B. Section 015500 - Vehicular Access and Parking.

1.03 TEMPORARY UTILITIES - SEE SECTION 015100

A. Existing facilities may not be used.

1.04 TEMPORARY SANITARY FACILITIES

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

B. Maintain daily in clean and sanitary condition.

1.05 BARRIERS

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

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

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

1.06 FENCING

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

1.07 SECURITY - SEE SECTION 013553

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

1.08 VEHICULAR ACCESS AND PARKING - SEE SECTION 015500

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

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

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

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

1.09 WASTE REMOVAL

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

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

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

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 015000

SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Cleaning and protection.

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

1.02 RELATED REQUIREMENTS

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

B. Section 078400 - Firestopping.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

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

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

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

PART 3 EXECUTION

3.01 EXAMINATION

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

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

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

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

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

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

3.02 PREPARATION

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

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

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

3.03 GENERAL INSTALLATION REQUIREMENTS

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

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

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

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

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

3.04 CUTTING AND PATCHING

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

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

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

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

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

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

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

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.

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

3.05 PROGRESS CLEANING

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

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

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

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

3.06 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

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

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

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

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

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

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

3.07 ADJUSTING

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

3.08 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

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

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

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

E. Clean filters of operating equipment.

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

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

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

3.09 CLOSEOUT PROCEDURES

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

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

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

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

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

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

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

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

END OF SECTION 017000

SECTION 017419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

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

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

C. Minimize trash/waste disposal in landfills; recycle as much waste as economically feasible.

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

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

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

1.02 RELATED REQUIREMENTS

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

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

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

D. Section 017000 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1.04 SUBMITTALS

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

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
      e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
   6. Material Reused on Project: Include the following information for each:
      a. Identification of material and how it was used in the project.
      b. Amount, in tons or cubic yards (cubic meters).
      c. Include weight tickets as evidence of quantity.

7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

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

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

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

D. See Section 017000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

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

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

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

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

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

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

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

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

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

END OF SECTION 017419

SECTION 024100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

PART 3 EXECUTION

2.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

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

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

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

2.02 EXISTING UTILITIES

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

B. Protect existing utilities to remain from damage.

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

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

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

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

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

2.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.

3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Remove existing work as indicated and required to accomplish new work.
   1. Remove items indicated on drawings.

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

D. Protect existing work to remain.
   1. Prevent movement of structure. Provide shoring and bracing as required.
   2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch to match new work.

2.04 DEBRIS AND WASTE REMOVAL

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

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

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

END OF SECTION 024100

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete reinforcement.

B. Concrete materials.

C. Mixture design.

D. Placement procedures.

E. Finishes.

F. Concrete curing.

1.02 REFERENCE STANDARDS

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

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

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

D. ACI PRC-308 - Guide to External Curing of Concrete; 2016.

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

F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.

1.03 SUBMITTALS

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

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

C. Mix Design: Submit proposed concrete mix design.

1.04 QUALITY ASSURANCE

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

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

PART 2 PRODUCTS

2.01 REINFORCEMENT MATERIALS

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

2.02 CONCRETE MATERIALS

A. General: Comply with the following sections of ACI 301 unless modified by requirements in the Contract Documents:
   1. "General Requirements."
   2. "Reinforcement and Reinforcement Supports."
   3. "Concrete Mixtures."
   4. "Handling, Placing, and Constructing."

B. Comply with ACI 117.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

D. Cementitious Materials:
   1. Portland Cement: ASTM C 150/C 150M, Type 1.
   2. Fly Ash: ASTM C 618, Class C or F.

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

2.03 CURING MATERIALS

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

B. Water: Potable.

C. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. ChemMasters, Inc.
      b. Dayton Superior.
      c. Euclid Chemical Company (The); an RPM company.
      d. Kaufman Products, Inc.
      e. Laticrete International, Inc.
      f. W.R. Meadows, Inc.

2.04 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
   1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount or portland cement, which would otherwise be used, by not less than 40%.

C. Admixtures: Use admixtures according to manufacturer's written instructions.
   1. Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
   2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

2.05 CONCRETE MIXTURES

A. Comply with ACI 301.

B. Normal-Weight Concrete:
   1. Minimum Compressive Strength: 3500 psi at 28 days.
   2. Maximum W/C Ratio: 0.45.
   3. Slump Limit: 5 inches, plus or minus 1 inch.
   4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3%.

2.06 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
   1. When air temperature is between 85 and 90 degrees F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.01 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.02 PLACING CONCRETE

A. Place concrete in accordance with ACI 301.

B. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

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

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

3.03 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Construct joints true to line with faces perpendicular to surface place of concrete.

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

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

E. Contraction Joint: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
   1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8". Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

F. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.
   1. Place perpendicular to main reinforcement.
   2. Align all new joints with existing joints.

3.04 CONCRETE FINISHING

A. Concrete Slabs: Finish to requirements of ACI PRC-302.1R. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.
   1. Do not further disturb surfaces before starting finishing operations.

C. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.05 CURING AND PROTECTION

A. Comply with requirements of ACI 306.1 Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

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

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

3.06 DEFECTIVE CONCRETE

END OF SECTION 033000

SECTION 061053
MISCELLANEOUS ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concealed wood blocking, nailers, and supports.

B. Underlayment

C. Subflooring

D. Framing with dimension lumber

1.02 REFERENCE STANDARDS

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

B. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

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

1.03 DELIVERY, STORAGE, AND HANDLING

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

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

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

2.02 DIMENSION LUMBER

A. Interior Partitions: Provide framing of the following grade and species:
   1. Grade: Construction, stud or No. 3.
   2. Species: Southern Pine; SPIB.

B. Exposed Boards: Provide the following:
   1. Moisture Content: 15% maximum.
   2. Species and Grade: Southern pine, C finish per SPIB rules.

C. Miscellaneous Lumber
   1. Moisture Content: 19% maximum for lumber items that are not specified to receive wood preservative treatment.
   2. Grade: For dimension lumber sizes, provide No. 3 grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 2 grade per SPIB.

D. Subflooring and Underlayment
   1. Plywood Subflooring: Exposure 1, Structural 1 single-floor panels or sheathing.
      a. Span Rating: Not less than 32/16.
      b. Nominal Thickness: To match existing.
   2. Underlayment" Provide underlayment in nominal thickness indicated.
      a. Plywood underlayment for Resilient Flooring: DOC PS 1, Exterior B-C with fully sanded face.
      b. Nominal Thickness: To match existing.

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

F. Moisture Content: S-dry or MC19.

2.03 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Nails, Wire, Brads, and Staples: FS FF-N-105.
   3. Power Driven Fasteners: CABO NER-272.
   4. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.04 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA C2 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications. Comply with AWPA C31 for lumber that is not in contact with the ground and is continuously protected from liquid water may be treated with inorganic boron (SBX).

PART 3 EXECUTION

3.01 PREPARATION

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

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

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

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 BLOCKING, NAILERS, AND SUPPORTS

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

B. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

3.04 INSTALLATION OF CONSTRUCTION PANELS

A. General: Comply with applicable recommendation contained in APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.

B. Subflooring: Glue and nail to wood framing.

C. Underlayment: Nail ro staple to subflooring.

3.05 CLEANING

A. Waste Disposal: See Section 017419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

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

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

END OF SECTION 061053

SECTION 062000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior standing and running trim.

1.02 REFERENCE STANDARDS

A. Lumber: Comply with NIST PS 20 and approved grading rules and inspection agency and showing compliance with each specified requirement.

B. Inspection Agency: WWPA: Western Wood Products Association.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.

B. Protect from moisture damage.

C. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

2.02 LUMBER MATERIALS

A. Size: Provide nominal sizes indicated, complying with NIST PS 20 except where actual sizes are specifically required.
   1. Surfacing: Dressed lumber (S4S).
   2. Moisture Content: Kiln-dry or MC15.

B. Miscellaneous Lumber: Provide dimension lumber necessary for the support of work specified in other sections, whether or not specifically indicated, and including but not limited to blocking, nailers, etc.
   1. Moisture content: 15 percent maximum (kiln-dry).
   2. Lumber: S4S, No. 2 or standard grade.
   3. Species: Southern pine.

2.03 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

A. Quality Standard: Comply with AWI Section 300.

B. Grade: Custom.

C. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

D. Softwood Trim: Provide finished lumber and moldings complying with the following requirements including those of the grading agency listed with the species:
   1. Species: Idaho White, Lodgepole, Ponderosa, or Sugar Pine; WWPA.
   2. Grade: B and Btr Select or Supreme.
   3. Texture: Surfaced (smooth).
   4. Lumber for Painted Finish: Glued-up lumber or solid lumber stock.

E. Wood Molding Patterns: Provide stock moldings indicated, made to patterns included in WMMPA WM 7 and graded under WMMPA WM 4.
   1. Moldings for Painted Finish: P-Grade.

2.04 FASTENINGS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this section for material and manufacture.

1. Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.
2. Nail, Wire, Brads, and Staples: FS FF_N_105.

2.05 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Set and secure materials and components in place, plumb and level.

B. Standing and Running Trim: Install with minimum number of joints possible, using full length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 36 inches long, except where shorter length pieces are necessary. Scarf running joints and stagger in adjacent and related members.
   1. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.
   2. Install wall railings on indicated metal brackets securely fastened to wall framing.
   3. Install standing and running trim with no more variation from a straight line than 1/8" in 96".

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim to conceal larger gaps.

END OF SECTION 062000

SECTION 066400
PLASTIC PANELING

PART 1 GENERAL

1.01 DESCRIPTION

A. Scope: All labor, materials, and equipment necessary to provide and install PVC tub wall surrounds, window liners, and accessories as shown on the drawing(s).

B. Work Included: Without limiting the generality of the foregoing, include the following:
   1. Field measurement.
   2. Installation.
   3. Accessories.
   4. Caulking.
   5. Coordination.
   6. Clean-up.

1.02 SUBMITTALS

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

B. Shop Drawings: Submit detailed shop drawings for review by the Architect. These shop drawings shall show proposed methods of installation for actual field conditions. Coordinate with the manufacturer to show joint of wall surround with new plastic window liner insert.

C. Samples: Submit samples for review by the Architect as follows:
   1. Plastic material.
   2. All accessories.
   3. Caulking.
   4. Adhesives.
   5. Fastening device.

D. Installer's qualification statement.

E. Maintenance Materials: Furnish two copies of the Cleaning Instructions for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements for additional provisions.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and familiar with the sepcifications and methods needed to properly perform the work of this section.

B. Standards: Comply with referenced standards of the American Society for Testing and Materials (ASTM), Underwriters Laboratories (U.L.), and the Federal Housing Administration of the Department of Housing and Urban Development (HUD/FHA).

C. Guarantee: Tub wall surround systems shall be installed by the manufacturer or factory certified agent or company and guaranteed for a period of two (2) years from date of substantial completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Product: Subject to compliance with requirements, provide products by Southern Cultured Marble, Inc. or a comparable product by one of the following:
   1. FlexStone Products
   2. The Swan Corporation
   3. Approved equal

2.02 PLASTIC PANELING

A. Plastic: Shall be acrylic in sheet form with the following characteristics:

1. Thickness as specified for each member with a tolerance of ten percent (10%) plus or minus.
2. Meets or exceeds the requirements of HUD/FHA as stated in "Materials Bulletin Number 73A: for Plastics".
3. Retains a modest gloss finish resistant to chipping, cracking under normal use.
4. Of the same color within each installation.

B. Tub Wall System: Members shall be manufactured from a sheet of acrylic plastic with a minimum of 3/8".
1. Tub wall surround system shall extend from the bath/tub rail to ceiling with trim.
2. Tub wall surround system shall be a three-piece sheet of smooth acrylic which are molded and customized to meet the specific requirements of each bathroom.
a. A surface mounted acrylic soap dish is to be included with wall surround system.
b. A surface mounted acrylic corner shelf unit is to be included with wall surround system.

C. Material: 100 percent virgin PVC (polyvinyl chloride), exterior grade.

2.03 ACCESSORIES

A. Adhesives: Type recommended by panel manufacturer for application; not containing formaldehyde or volatile organic compounds. All adhesives used shall be fire, water, and mildew resistant in their cured state.

B. Caulking: All caulking shall be watertight, mildew resitsant silicone sealant, equal to or better than DOW Corning 784, 786, or SCS-1702. Where the seam is next to a wall that is going to be painted, a latex caulk may be used if so specified.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify field measurements are as indicated on shop drawings.

B. Verify substrates are prepared to receive plastic paneling.

3.02 PREPARATION

A. Surface Preparation: Clean substrate surfaces prior to installing paneling.

B. Install required blocking.

3.03 INSTALLATION - GENERAL

A. Maintain manufacturer recommended gap tolerances between panels and adjacent abutments.

B. Measure panel and custom fit to fixture locations. Apply adhesive and tape on wall and position panel in place. Apply silicone waterproofing around all holes cut in panel for plumbing.

C. Install supporting flanges, shower and window curtain rods, soap dishes, etc., as specified.

D. Trim and edge exposed ends and seams with plpastic trim and specified sealants.

E. Installation shall be made with approved caulking. All perimeter edges between new panels and existing walls including corner joints between window, back wall, or the side walls must be permanently caulked.

F. Apply silicone/adhesive waterproofing sealant to all seams and plumbing trim for a water tight installation.

3.04 CLEANING

A. Clean exposed surfaces of panels and trim in accordance with manufacturer's instructions.

END OF SECTION 066400

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

C. Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1.02 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant contiuous joint seals without staining or deteriorating joint substrates.

1.03 DEFINITIONS

A. Substrates
   1. M-type substrates: Concrete, concrete masonry units, brick, mortar, natural stone. The term "masonry" means brick, stone, and concrete masonry work.
   2. G-type substrates: Glass and transparent plastic glazing sheets.
   3. A-type substrates: Metals, porcelain, glazed tile, and smooth plastics.
   4. O-type substrates: Wood, unglazed tile; substrates not included under other categories.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

C. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

1.04 SUBMITTALS

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

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

C. Executed warranty.

1.05 WARRANTY

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

B. Special Installer's Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.

C. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period. Correct defective work within 5 year period commencing on Date of Substantial Completion.

1.06 PROJEE

A. Environmental Limitations: Do not install sealers if any of the following conditions exist:

1. Air or substrate temperature exceeds the range recommended by the sealer manufacturer or is below 40 degrees F.
2. Substrate is wet, damp, or covered with snow, ice, or frost.

B. Dimensional Limitations: Do not install sealers if joint dimensions are less than or greater than that recommended by sealer manufacturer; notify the architect and get sealer manufacturer's recommendations for altern

PART 2 PRODUCTS

2.01 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C920 and other requirements indicated for each liquid applied chemically curing sealant specified, including those reference ASTM C920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C1248 and have not stained porous joint substrates indicated for Project.Suita

C. Suitability for Immersion in Liquids: Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C1247 and qualify for the length of exposure indicated by reference to ASTM C920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant ES-1:
1. Available Products:
   a. Pecora Corporation; 898NST.
   b. Tremco; Tremsil 200 Sanitary.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 25.
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indiacted, O.

2.02 LATEX JOINT SEALANTS

A. Latex Sealant: Comply with ASTM C834, Type P, Grade NF.

B. Available Products:
1. BASF Building Systems; Sono
2. Bostik, Inc.; Chem-Calk 600.
3. Pecor Corporation; AC-20+.
4. Tremco; Tremflex 834.

2.03 JOINT SEALANTS - GENERAL

2.04 NONSAG JOINT SEALANTS

2.05 ACCESSORIES

A. Sealant Backing Materials, General: Materials placed in joint before applying sealants; assists sealant performance and service life by developing optimum sealant profile and preventing three-sided adhesion; type and size recommended by sealant manufacturer for compatibility with sealant, substrate, and application.

B. Sealant Backing Rod, Closed-Cell Type:
1. Cylindrical flexible sealant backings complying with ASTM C1330 Type C.

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

D. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

E. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

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

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Interior perimeter joints of exterior openings.
   1. Joint Sealant: Latex sealant.

B. Joint-Sealant Application: Interior joints between plumbing fixtures and adjoining walls, floors, and counters.
   1. Joint Sealant: Single-component mildew-resistant neutral-curing silicone sealant ES-1.

C. Joint-Sealant Application: Perimeter joints between interior wall surfaces and frames of interior doors.
   1. Joint Sealant: Latex sealant.

END OF SECTION 079200

SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Acoustic insulation.

B. Gypsum wallboard.

C. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.

C. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

D. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

E. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.

F. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Store gypsum products and accessories indoors and keep above freezing. Protect against damage from weather, direct sunlight, surface contamination, corrosion, and construction traffic. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations. Stack gypsum panels flat to prevent sagging.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 MANUFACTURERS

A. 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:
   1. Gypsum Board and Related Products:
      a. G-P Gypsum Corp.
      b. National Gypsum Company.
      c. United States Gypsum Co.

2.03 INTERIOR GYPSUM WALL BOARD

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

B. Regular Gyspum Wallboard: ASTM C 36
   1. Thickness: 1/2"
   2. Long Edges: Tapered
   3. Location: Vertical Surfaces
   4. Location: Ceilings, 1/2"

C. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M
   1. Core: 1/2", regular type.
   2. Location: All bathroom walls and wet areas.

D. Fire Rated Gypsum Board: ASTM C 36

1. Fire Resistant Type X
2. Thickness: 5/8"
3. Location: See drawings for locations.

2.04 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.
   1. Material: Glavanized or aluminum-coated steel sheet or rolled zinc.
   2. Shapes:
      a. Cornerbead: Use at outside corners.
      b. LC-Bead: J-shaped; exposed long flange receives joint compound; use at exposed panel edges.

2.05 BOARD MATERIALS

2.06 GYPSUM BOARD ACCESSORIES

A. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
   2. Joint Compound for Interior Gypsum Wallboard: Drying type, all-purpose compound.
      a. Use compatible formulation with other compounds applied on previous or for successive coats:
         1) Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
         2) Fill Coat: For second coat, use drying-type, all-purpose compound.
         3) Finish Coat: For third coat, use drying-type, all-purpose compound.

B. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-drilling type screws, corrosion-resistant.

C. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence. Examine areas and substrates, with installer present, and including welded hollow metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions. Install sound attenuation blankets prior to gypsum panels, unless blankets are readily installed after pa

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16" of open space between panels. Do not force into place.

E. 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.

F. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilitent channels, or provide control joints to counteract wood shrinkage.

3.04 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

END OF SECTION 092116

SECTION 096500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheet vinyl flooring.

B. Vinyl plank sheet floor covering.

1.02 REFERENCE STANDARDS

A. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2019.

1.03 SUBMITTALS

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

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

D. Verification Samples: Submit two samples, not less than 4 by 36 inch (___ by ___ mm) in size illustrating color and pattern for each resilient flooring product specified.

E. Installer's Qualification Statement.

F. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience or are trained or certified by floor covering manufacturer for installation techniques required..

1.05 DELIVERY, STORAGE, AND HANDLING

A. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).

1.06 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than a temperature of 70 degrees F (21 degrees C) or more than 85 deg F, in spaces to receive floor coverings during the following time periods:
   1. 48 hours before installation.
   2. During installation.
   3. 48 hours after installation.

B. Close spaces to traffic during floor covering installation and for 48 hours after floor covering.

1.07 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Floor covering: Furnish 500 sqare feet for each color, pattern, and type of floor covering installed.

PART 2 PRODUCTS

2.01 VINYL SHEET FLOORING COVERING

A. Products: - Subject to compliance with requirements, provide one of the following::
   1. Adore Floors; Naturelle Narrow Planks.
   2. Amtico International, a division of Mannington Commercial; Spacia First Wood.
   3. Burke Flooring; Vinyl Wood Planks.

4. Centiva; Contour Series-Wood
5. Philadelphia Commercial; In the Grain II.
    a. Wear-layer thickness: 12 mil, minimum.
    b. Overall thickness: 0.080 inch, minimum.
    c. Wearing surface: Smooth or embossed.
    d. Size: 3" x 36" or 4" x 36" planks, nominal.

B. Products: Subject to compliance with requirements, provide one of the following:
1. Armstrong Flooring; StrataMax Best; Multicolor Slate Vinyl Sheet.
2. Mannington: Best Jumpstart.
3. Mohawk; Versatech Ultra.
4. Tarkett; Acczent Flourish.
    a. Overall thickness: 0.080 inch, minimum.
    b. Wearing surface: Smooth or embossed.
    c. Width: 6 feet.

2.02 INSTALLATION MATERIALS

A. Trowelable leveling and patching compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications intended.

B. Adhesives: Water-resistant type recommended by manufacturer to suit floor covering and substrate conditions indicated.

C. Minimum Requirements: Comply with ASTM F1913.

D. Thickness: 0.080 inch (2.0 mm) nominal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Concrete Substrates: Prepare according to ASTM F 710.
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.
3. Alkalinity and adhesion testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

D. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

E. Do not install floor coverings until they are same temperature as space where they are to be installed.
1. Move floor coverings and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

3.03 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

D. Install flooring in recessed floor access covers, maintaining floor pattern.

3.04 INSTALLATION - SHEET FLOORING

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

3.05 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

C. Cover floor coverings until Substantial Completion.

3.06 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION 096500

SECTION 099123
INTERIOR PAINTING

PART 1 GENERAL

1.01 REFERENCE STANDARDS

A. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

1.02 SUBMITTALS

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

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. MPI product number (e.g., MPI #47).
   3. Cross-reference to specified paint system products to be used in project; include description of each system.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions. Maintain storage containers in a clean condition, free of foreign materials and residue.

1.04 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F (3 degrees C) above the dew point, or to damp or wet surfaces.

D. Do not apply paint in snow, rain, fog, or mist.

E. Provide lighting level of 80 fc (860 lux) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
   1. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
   2. PPG Paints, PPG Industries, Inc..
   3. Benjamin Moore & Co.

C. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.

1. Material Compatibility: Provide primers and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
2. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
3. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
4. Supply each paint material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

2.03 PREPARATORY COATS

A. Interior Primer: Interior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indi
   1. Ferrous-Metal Substrates: Quick drying, rust-inhibitive metal primer.
   2. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.04 INTERIOR FINISH COATS

A. Interior Flat Acrylic Paint for Gypsum Board Ceiling Surfaces:
   1. Benjamin Moore; Ultra Spec 500 Interior Latex Flat, N536.
   2. PPG; 6-70 Series SpeedHide Interior Wall Flat Latex.
   3. Sherwin-Williams; ProMar 200 Interior Latex Flat Wall Paint B30W200.

B. Interior Low-Luster Acrylic Enamel for Gypsum Board Wall Surfaces:
   1. Benjamin Moore; Ultra Spec 500 Latex Eggshell, N538.
   2. PPG; 6-411 Series SpeedHide Interior Enamel Eggshell Latex.
   3. Sherwin-Williams; ProMar 200 Interior Latex Eggshell Enamel B20W200.

C. Interior Full-Gloss Acrylic Enamel for Ferrous Metal Surfaces:
   1. Benjamin Moore; Advance Waterbourne Interior Alkyd High Gloss, N794.
   2. PPG; Pitt-Tech Interior/Exterior High Gloss DTM Industrial Enamel, 90-374.
   3. Sherwin-Williams; ProMar 200 Interior Latex Gloss Enamel B35W200.

D. Interior Full-Gloss Alkyd Enamel for Wood:
   1. Benjamin Moore; Advance Waterbourne Interior Alkyd High Gloss, N794.
   2. PPG; SpeedHide Gloss Oil Interior/Exterior Gloss, 6-282.
   3. Sherwin-Williams; ProMar 200 Alkyd Gloss Enamel B35W200.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand wood and metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Protect work of other trades against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

3.05 SCHEDULE - PAINT SYSTEMS

A. Gypsum Board: Finish surfaces exposed to view.
   1. Interior Ceilings and Bulkheads: Acrylic Finish; Two coats over a primer.
      a. Primer: Interior gyspum board primer.
      b. Finish Coats: Interior flat acrylic paint.
   2. Interior Walls: Acrylic Finish; Two coats over a primer.
      a. Primer: Interior gyspum board primer.
      b. Finish Coats: Interior low-luster acrylic paint.

B. Wood: Finish surfaces exposed to view.
   1. Alkyd-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior wood primer for acrylic-enamel finishes.
      b. Finish Coats: Interior full-gloss alkyd enamel.

C. Ferrous Metal
   1. Alkyd-Enamel Finish: Two finish coats over a primer.
      a. Primer: Interior ferrous-metal primer.
      b. Finish Coats: Interior full-gloss alkyd enamel.

END OF SECTION 099123

SECTION 123530
RESIDENTIAL CASEWORK

PART 1 GENERAL

2.01 SECTION INCLUDES

A. Kitchen cabinets.

B. Kitchen countertops.

C. Vanity cabinets.

2.02 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.

2.03 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2022.

B. BHMA A156.9 - Cabinet Hardware; 2020.

C. KCMA A161.1 - Performance and Construction Standard for Kitchen and Vanity Cabinets; 2017.

D. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

2.04 SUBMITTALS

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

B. Product Data: Provide component dimensions, configurations, construction details, and joint details.

C. Certificate: Submit Kitchen Cabinet Manufacturers Association (KCMA) certificate showing conformance with KCMA A161.1.

D. Certificate: Submit Kitchen Cabinet Manufacturers Association (KCMA) certificate showing manufacturer has met the requirements of KCMA's Environmental Stewardship Program (ESP).

E. Shop Drawings: Indicate casework locations, elevations, clearances required, rough-in and anchor placement dimensions and tolerances, and detailed features.

F. General Contractor shall verify all kitchen dimensions prior to submittal of shop drawings. Shope drawings shell reflect contractor field verified dimensions. Dimensions for open spaces shall not be modified without the architect's approval.

G. Manufacturer's Qualification Statement.

2.05 QUALITY ASSURANCE

A. Cabinets must be tested, certified, and bear the label or seal of the Kitchen Cabinet Manufacturer's Association (KCMA) in accordance with 24 CFR 200.935
   1. One label should indicate that product meets the HUD CSP "Severe Use" specifications. The other label should indicate that the product meets the KCMA CSP specifications for normal/elderly use.

B. Submit necessary reports to the architect to show compliance with specifications requirements.

C. Manufacturer: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

PART 2 PRODUCTS

3.01 CABINETS

A. Manufacturers:
   1. Dudley Cabinets, Inc. (478) 676-3005
   2. Evans Cabinet Corporation (478) 272-2530
   3. MasterBuilt Cabinet (270) 325-3578

4. Mid-America Cabinets (479) 736-2671
5. Republic National Industries of Texas, L.P. (903) 935-3680
6. Stidham Cabinets, Inc. (800) 425-0899

B. Kitchen and Vanity: Wall and base cabinets shall be of the same construction, outside appearance must be the same and must have face frames. Cabinets and countertops must be constructed of solid lumber or exterior grade plywood with wood veneer core. All parts touching floor must be of pressure treated solid lumber. Brace cabinets as necessary to produce sturdy and rigid construction. Provide an integral toe space of at least 3 inches by 3 inches or as indicated for handicap accessible cabinets. Only first quality methods, materials and workmanship will be used.

C. Cabinet Box: Framed construction.
   1. Side Panels: Exposed ends shall be minimum 2-2 grade, 1/2" thick, 5-ply exterior hardwood plywood, selected for light uniform color..
      a. Ends not exposed can be 1/2" exterior softwood plywood, Grade A-D, with "A" side to inside of cabinet.
      b. Ends shall be dadoed a minimum of 1/4"-deep to receive shelves, bottoms and tops.
      c. Ends must be dadoed in face frame.
      d. Base cabinet end panels shall stop 3-1/2" above the floor and be supprted by 3/4" by 3-1/2" pressure treated solid lumber member.
   2. Back Panel: Required on all cabinets (optional on sink bases depending on job conditions).
      a. Minimum 1/4" thick 2-2 grade exterior hardwood plywood or Grade A-D exterior softwood plywood.
      b. Backs shall be securely glued and stapled to ends, 3-1/2" cleats and shelves of cabinets.
      c. Backs may be let into dado of ends and cleats, or may be applied flush with ends and cleats.
   3. Base Bottom Panel: 1/2" thick 2-2 grade, exterior hardwood plywood or Grade A-C exterior softwood plywood..
      a. Bottoms shall be let into end panels, front rails and installation cleats.
      b. Bottom shall be supported by 3/4" thick pressure treated solid lumber braces, 24" on center running front to rear of cabinet and resting on floor.
   4. Face Frame: 3/4" net thickness of kiln dried solid hardwood, free of knots and selected for light uniform color suitable for natural finish..
      a. Frames to be mortised and tenoned, dovetailed or doweled, glued and stapled ander pressure and filled and sanded.
      b. Vertical end members (stiles) to be 1-3/4" wide.
      c. Vertical center members between doors and drawers (mulls) to be minimum 3-1/2" wide.
      d. Horizontal members (rails) to be 1-3/4" wide.
      e. Stiles and top and bottom rails to be dadoed to receive ends, bottoms and tops.

D. Cabinet Doors:
   1. Style: Raised Wood Panel Construction manufactured by Refer to above manufacturers.
      a. Edges of frame shall be reversed
   2. Species: Beech, Birch, Maple, or Oak.

E. Drawers: Drawer fronts to be the same specification as the doors.
   1. Solid wood sides with dovetailed or mortised and tenoned into front, plywood bottom panel.
   2. Drawer Front: To match cabinet doors in style, material, and finish.

F. Shelves and Wall Cabinet Bottoms: 1/2" thick, 2-2 grade, exterior hardwood plywood or Grade A-B exterior softwood plywood with wood banded front edge or 3/4" thick solid lumber.
   1. Shelves to be let into dadoes of end panels and braced behind mulls.

2. Bottoms to be let into dadoes in ends, cleats, and front frames.
3. Both shall be glued and nailed or stapled.
4. Backs shall be dadoed into sides.
5. Mount drawers on pair of 75-pound capacity, side mounted metal guides.
6. Cabinet members of guides shall be attached at rear to 3/4" solid lumber hanging rail, or 2" solid lumber or plywood block which is attached to 3/4" solid lumber hanging rails by use of metal rear mount brackets or by the continuous wraparound method.

G. Valance: Provide valance of same wood species as cabinet in shape and size indicated
   1. Thickness to be 3/4" net.

H. Fillers and Molding: Scribe mould and fillers shall be utilized to assure accurate job fit. Contractor shall supply cabinet manufacturer with adequate

I. Finish: Exposed surfaces and interior of cabinet shall be factory finished, consisting of stain, sealer, and polyurethane coats or an equivelant coating system, lightly sanded between applications.
   1. Sealer and top coats must be oven dried.
   2. The exterior finish shall meet the performance requirements of Article 1.4.A.1.
   3. Color shall be selected by the Architect from manufacturer's standard colors.

J. Kitchen Countertop: Post formed plastic laminate over particle board, 4" square internal intersection to back splash.
   1. The bottom front end and edges shall have a solid wood mold.
   2. The perimeter of the bottom of countertops and sink cut outs shall be sealed with varnish.
   3. The countertop shall include no-drip edge.
   4. Plastic Laminate: NEMA LD3, Type PF4Z, 0.042" thick.
      a. Colors, patterns, and finishes as selected from manufacturer's standard offering.

K. Installation Cleats: Minimum of 3/4" by 3-1/2" S4S, "C" grade, kiln dried solid lumber, dadoes to receive bottom and tops
   1. Two horizontal members running full length of cabinet at top and bottom required.
   2. Base cabinets with drawers must have side mount drawer slide bracket(s) rigidly attached to a 2" thick plywood or wood block which is rigidly attached to the top cleat.

3.02 MATERIALS

A. The use of particle board, flakeboard, or hardboard in the construction of severe use kitchen cabinets
   1. Solid Wood: Air-dried to 4.5 percent moisture content, then tempered to 6 percent moisture content before use.

B. Solid Wood: Clear, dry, sound, plain sawn, selected for species grain and color, no defects.

C. Particleboard: Composed of wood chips, medium density, with waterproof resin binders; of grade to suit application; sanded faces; complying with ANSI A208.1.

D. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications. complying with Grade requirements, and standard with the manufacturer.

3.03 FABRICATION

A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.

B. Fabricate corners and joints without gaps.

C. Fabricate each unit to be rigid and not dependent on adjacent units for rigidity.

PART 3 EXECUTION

4.01 EXAMINATION

A. Verify adequacy of support framing, grounds and blocking for a proper location and support of cabinets.

B. Verify existing conditions and dimensions prior to fabric

C. Verify location of mechanical and electrical rough-ins or equipment to assure proper match.

4.02 INSTALLATION

A. Install casework, components and accessories in accordance with manufacturer's instructions.

B. Use anchoring devices to suit conditions and substrate materials encountered.

C. Set casework items plumb and square, securely anchored to building structure.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (_____ mm).

E. Close ends of units, backsplashes, shelves, and bases.

F. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

G. Install bead of sealant at backsplash edge and wall intersection horizontally and vertically.

H. Secure countertops to casework and walls with concealed fasteners.
   1. Miter inside corner joints of countertops.
   2. Seal cut edge of plywood at sink opening with spar varnish.

I. Cabinet installer shall have a minimum 2 years experience installing cabinets in similar projects. Contractor shall provide three minimum references of installer experience.

4.03 ADJUSTING

A. Adjust doors, drawers, hardware, and other moving or operating parts to function smoothly.

4.04 CLEANING

A. Clean casework, countertops, shelves, and hardware.

4.05 PROTECTION

A. Do not permit finished casework to be exposed to continued construction activity.

END OF SECTION 123530