New Boston Central School _SAU 19_

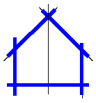
2020 RENOVATIONS

15 Central School Road

New Boston, New Hampshire 03070

March 13, 2020

DIGNARD ARCHITECTURAL SERVICES
146 South Hill Road
New Boston, NH 03070



Phone (603) 759-8622
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Bedford, NH 03110
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To be used in conjunction with drawings issued March 13, 2020

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INVITATION TO BID

NEW BOSTON CENTRAL SCHOOL_SAU 19_ 2020 RENOVATIONS

15 CENTRAL SCHOOL ROAD

NEW BOSTON, NEW HAMPSHIRE

MARCH 13, 2020

This invitation is extended to several pre-selected Contractors to prepare competitive proposals. The scope of Work is described in the drawings and specifications prepared by Dignard Architectural and Yeaton Associates and issued to those invited parties via email in PDF format on or about March 13, 2020.There shall be 2 dates where the invited contractors and their subcontractors and suppliers will be allowed to walk through the school with the Architect and the Owner. It will also be an opportunity to ask questions and seek clarifications. All responses shall be documented by the Architect and issued to all parties following the site visits via addendum.

1. Site visits: Wednesday, March 18, 3:00 PM

   Thursday, March 26, 3:00 PM

   We shall meet at the main entrance to the school and proceed to do a walk through from there.

2. Site conditions: In submitting a proposal the contractor accepts that they have satisfied themselves as to the character of the site and building based on having attended at least one site visit.
3. Questions during the bid period: All questions shall be directed through the Architect via phone or email to Roger Dignard 603-758-8622, roger@dig-arc.com. Any questions or responses shall be shared with all of the invited parties via periodic email addenda issued by the Architect. (confirmation receipt). The invited parties shall in turn be responsible for sharing any addenda with their invited subcontractors and suppliers. Parties shall refrain from contacting or asking questions of the Owner or his personnel in order to avoid later conflicts or misunderstandings.
4. Last opportunity to submit questions: Tuesday, March 31, 5:00 PM.
5. Proposal due date: Proposals shall be due **by 5:00 PM on Thursday, April 2, 2020**. Your proposals shall be submitted by email to roger@dig-arc.com with copy to Randy.Loring@SAU19.org . Receipt shall be acknowledged by the Architect. Proposals shall be submitted on the supplied BID FORM.
6. The New Boston School District reserves the right to reject any or all bids, to waive technicalities or to otherwise act in their own best interest in accepting the bid that offers the best perceived value for the School District.
7. Time is of the essence: The window of opportunity for completing the Work is the school's summer recess. It is the School District's expectation that all Work shall be complete on or before the first scheduled day of school for the 2020/2021 academic year as identified in the school calendar.
8. Bonds: A bid bond is not required. A Performance Bond may be required by the State. Please identify its potential cost on your Bid Form.

End of Invitation to Bid

BID FORM

NEW BOSTON CENTRAL SCHOOL- SAU 19- 2020 RENOVATIONS

15 Central School Road, New Boston, New Hampshire 03070

Bid proposals are due no later than 5:00 PM EST, Thursday, April 2nd , 2020:
Bids are to be submitted via email to roger@dig-arc.com and Randy.Loring@SAU19.org
Receipt of bid/proposal shall be confirmed by the architect via email.

- I acknowledge receipt of the following addenda delivered via email:
  - Addendum #1 –DATE_____ Addendum #2 –DATE_____
  - Addendum #3 –DATE_____ Addendum #4 –DATE _____

- I accept that substantial completion is expected on or about the end of August 2020 before the start of the academic year.
- I have attached a resume for the proposed project superintendent.
- I propose to perform the work described in plans and specifications dated March 13, 2020 and issued by Dignard Architectural and Yeaton Associates plus subsequent addenda for a **lump sum cost** of $_____

(Please state that cost in words)

_____

- If a Performance Bond is required its cost shall be added to the above lump sum cost in the amount of $_____

  (Please state that cost in words)

  _____

Bid proposals shall remain valid for 30 days.

Contractor:

Printed Name _____

Signature _____

Any exclusions, qualifications, or comments:

SECTION 01000

ADMINISTRATIVE PROVISIONS

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to work of this Section.

SUMMARY

- Work covered by this Project Manual.
- Contract time.
- Contractor use of premises.
- Coordination.
- Reference standards.
- Insurance
- Contract form
- Project meetings.

WORK COVERED BY THIS PROJECT MANUAL

- Work covered in this Project Manual consists of the following:
  - Replacement of existing windows in masonry openings.
  - Infill of oversized window wall openings with framed assembly and new windows.
  - Repair of exterior soffits and canopy.
  - Door hardware modifications.
  - Installation of a VRF system for heating and air conditioning in designated areas.
  - Selective demolition to accomplish these tasks.

CONTRACT TIME

- Time is of the essence. Substantially Complete Work on or before the date indicated in the Contract.

CONTRACTOR USE OF PREMISES

- During the construction period the Contractor shall coordinate access and use of the site for construction operations with the Owner. Do not impact the site or any existing structure beyond the necessary limits needed to accomplish this Work unless otherwise agreed by the Owner.
- Prior to beginning work of the Contract, the Contractor shall meet with the Owner and the Architect to determine procedures regarding access to and use of the site, staging and storage areas, special site conditions and any other restrictions regarding the use of the site areas surrounding the construction.
- A reasonable sum (cost of equivalent replacement including installation) will be deducted from Contract Sum for any permanent damage to existing structures, trees, plantings, or other improvements within the construction site area that should not reasonably be affected by the Work.
- The Contractor shall endeavor at all times to maintain as low a level of construction noise as practicable within the limits established by authorities having jurisdiction.

COORDINATION

- Provisions of General and Supplementary Conditions and Division 1 Sections apply to all Work covered by this Contract. The Contractor shall be responsible for enforcing adherence to these provisions by his Sub-Contractors and Suppliers.

- The Drawings are made to scale but all working dimensions shall be taken from the figured dimensions, or by actual measurements at the site, and in no case by scaling. The Contractor shall study and compare all drawings and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in his work which might have been avoided thereby. Whether or not an error is believed to exist, deviations from the Drawings and the dimensions given thereon shall be made only after all measurements of existing conditions, notwithstanding the figured dimensions on the Drawings. When figured dimensions are not in agreement with the Contractor's measurements, he shall immediately notify the Architect who shall promptly help to adjust the same. Any work performed after such discovery without review by the Architect shall be at the Contractor's risk and expense.

REFERENCE STANDARDS

- For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- The date of the standard is that in effect as the Bid Documents Date, except when a specific date is specified herein or established by applicable codes.

INSURANCE

- The contractor shall verify insurance requirements with the Owner's agent and provide proof of insurance via certificate from his insurance carrier(s) before execution of the Contract.
- Coverage shall include:
    - Proof of general liability in the amount of one million dollars per incident and two million in aggregate.
    - Proof of automobile insurance.
    - Proof of workers compensation insurance in compliance with State requirements.
- Contractor shall verify that all of his subcontractors and suppliers also have insurance coverage as required by applicable State agencies.

CONTRACT FORM

- The Contract form shall be AIA A104-2017 Standard Abbreviated Form of Agreement between Owner and Contractor with General Conditions integral to the document.
- The Contractor shall prepare a draft of this Agreement for review and execution by the parties to the Contract.

PROJECT MEETINGS

- Project meetings will be scheduled at a time convenient to Owner, Architect and Contractor and scheduled at regular intervals.
- The meetings shall be held on site. The Contractor will preside at the meetings. The Contractor will record minutes and distribute copies to the Owner and Architect, who shall in turn distribute to those affected by decisions made at the meetings within their respective organizational structures.
- Attendance at meetings will normally consist of the Project Manager, Job Superintendent, Architect, and Owner's Representative(s). Major Sub-Contractors, Architect's consultants, and others as appropriate to agenda topics, may be invited to attend.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 –GENERAL

RELATED DOCUMENTS

- General and Supplementary Conditions.
- Section 01600 “Material and Equipment”
- Section 01700 “Contract Closeout” - Closeout submittals.

SUMMARY

- Procedures
- Construction progress schedules.
- Schedule of values.
- Shop drawings.
- Product data.
- Samples.

PROCEDURES

- The Contractor shall review all submittals for compliance with the Contract Documents and clearly mark them reviewed and approved prior to submitting them to the Architect.
- Deliver submittals to the Architect in format or quantities indicated.
- Coordinate submittals with the Work schedule to ensure ample time for the review process. Coordinate submittals of related items.
- After Architect’s review of the submittal, revise and resubmit if required, identifying changes made since previous submittal.
    - ♦ Review of Shop Drawings or Schedules by the Architect shall not relieve the Contractor of responsibility for deviations from the Contract Documents, or errors of any kind, or omissions from the shop drawings or schedules. The Architect’s review shall, among other limitations, not include the calculation, coordination or verification of dimensions or quantities, which shall be the sole responsibility of the Contractor.
- Distribute copies of reviewed submittals to the product supplier, field superintendent and any other concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- Compile approved shop drawings for inclusion in the electronic project record upon project completion.

CONSTRUCTION PROGRESS SCHEDULES

- Submit an initial project timeline after award of the Contract. Recognize Owner designated critical dates on the timeline.
- Submit a schedule of submittals after award of the Contract.

SCHEDULE OF VALUES AND APPLICATIONS FOR PAYMENT

- Submit initial schedule of values (cost breakdown) after award of the Contract; typed on AIA Document G703.
- Format: Use Table of Contents of this Project Manual or CSI Numbering system as a guide for developing line items. Identify each line item with number and title.
- Like items such as bonds and insurance may be combined on the schedule.
- With each subsequent submission of application for payment, update the schedule to include change orders. Include descriptive headings in addition to Change Order Numbers.
- Submit four (4) copies of each Application for Payment to the Architect. A draft copy of the Application should be distributed electronically in advance of the actual submission.

SHOP DRAWINGS

Electronic submittal of shop drawings:

- Allow up to 1 week for review and return of shop drawings; the Architect and his consultants shall make every effort to rapidly respond on submittals but the Contractor must recognize that every submittal can't become an "emergency".
- A PDF copy of a shop drawing may be submitted via email in lieu of multiple "hard" copies. We can readily apply comments to the PDF format submissions and return them via email.
- The submitted document must be clearly legible. Poor quality scans will be rejected and reviewed only when an acceptable copy is submitted.

PRODUCT DATA

- Clearly mark the submission to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the work. Include manufacturers' installation and maintenance instructions when appropriate.
- It is the contractor's responsibility to clearly identify the proposed items, sizes or options on the submittal when multiple options are included in the literature.

SAMPLES

- Samples for Color or Finish Selection: Submit full range of manufacturers' standard colors within the specified cost/quality range for Architect's selection.
  - ♦ Samples for decisions and procurement must be provided in a timely fashion.
- Provide field sample installations or finishes as required by individual Specification Sections. Acceptable sample installation and finishes may be retained in the completed Work.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

RELATED DOCUMENTS

- General and Supplementary Conditions.
- Section 01005 "Administrative Provisions" - Contractor use of premises.
- Section 01700 "Contract Closeout" – Final Cleaning.

SUMMARY

- Electricity, lighting.
- Ventilation.
- Communication services.
- Water.
- Sanitary facilities.
- Enclosures.
- Building Security
- Barriers.
- Smoking policy
- Cleaning during construction.
- Cutting and patching.
- Removal.
- Contractor/sub-contractor signage.
- Field office and storage.
- School Calendar
- Building permits.

ELECTRICITY, LIGHTING

- The contractor can utilize the school's existing electrical service to support the Work effort. The Contractor shall not be wasteful of power usage nor damage any existing devices or equipment being used for the progress of the Work.
- Adequate interior lighting must be made available to the trades in order for them to effectively execute their aspects of the Work. The Contractor shall provide supplemental lighting where needed.

VENTILATION

- Provide and maintain ventilating devices (fans) as required to maintain conditions for construction operations, and to protect materials and finishes from damage due to temperature and humidity.
- Provide and maintain temporary ventilation of enclosed areas when required for employee health and safety as well as to properly cure materials, to disperse humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- Minimize introduction of dust to the building's permanent ventilation systems or spaces. Ventilation shall be in place to minimize intrusion of fumes, odors, dust and vapors into occupied spaces.
- The new cooling systems that are part of this work scope may be used during construction after all installation has been approved. Maintain and perform routine maintenance. Clean or replace all filters at completion of Project.
    - ♦ Prior to operation of permanent equipment for temporary purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for maintenance and regular replacement of filters and worn or consumed parts.

COMMUNICATION SERVICES

- Notify the Owner and Architect of contact numbers for project critical personnel. The Owner and Architect shall correspondingly provide their contact information.

WATER

- Existing on site water services may be used. Contractor is responsible for their own hoses.
- Contractor shall provide for potable drinking water for use by all their construction personnel.

SANITARY FACILITIES

- Provide temporary toilet facilities near the Work area for all persons engaged on the Work at the site.
- Provide temporary toilet(s) in location(s) approved by the Owner. Maintain in a clean and orderly condition in compliance with all local and State health requirements.

ENCLOSURES

- Provide temporary weathertight enclosures at openings in the exterior walls or roof for weather protection and to prevent entry of unauthorized persons.
- As windows are progressively removed and replaced the Contractor is expected to make any openings secure at the end of each of workday or when the work area is left unattended.

BUILDING SECURITY

- The school is covered by a perimeter access security system. The Contractor will be provided with a unique passcode for building access along with a key.

BARRIERS

- Provide temporary barriers as required to prevent public entry to construction areas, to safeguard the public against hazards, to provide for the Owner's use of the site, and to protect existing facilities from damage.
- As the Contractor is progressively working around the exterior of the building (particularly in vicinity of the playground); at minimum he shall install a perimeter orange mesh fence to designate a safe perimeter away from any active work zone.

SMOKING POLICY

- This is a NON-SMOKING campus. At no time shall personnel be allowed to smoke within the building or its immediate proximity.

CLEANING DURING CONSTRUCTION

- Control accumulation of waste materials and rubbish by periodic collection and proper disposal off-site.
  - ♦ Exercise special care to avoid waste materials and rubbish being allowed onto adjacent properties.
- Progressively clean areas of the Work as it is performed. Maintain areas free of dust and other contaminants during finishing operations.
- Stud and ceiling cavities will absolutely be vacuum clean prior to the application of batt insulations and finish materials. These voids shall be free of accumulated dust and construction debris.

CUTTING AND PATCHING

- Perform cutting and patching work required by all trades. Coordinate work so as to avoid oversized cuts and holes.
- Finish filled and patched areas that are to be exposed to view so as to be indistinguishable from surrounding Work. Concealed holes must be sealed consistent with any assembly fire rating or for acoustic isolation.

REMOVAL

- Remove temporary materials, equipment, services, and construction prior to substantial completion.
- Clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used during construction to original condition.

PROJECT IDENTIFICATION

- Signs identifying the Contractor and subcontractors will be allowed by the Owner at their discretion and as permitted by local authorities. Sign types and locations must be approved by the Owner before installation.

FIELD OFFICE AND STORAGE

- Field Office: The school will make a space available within the building for the Contractor's use. Coordinate an acceptable location with the Owner. The space provided shall be maintained and returned to the Owner in same or better condition upon completion of the Work.
- Storage for Tools, Materials and Equipment: Weathertight with adequate space for organized storage and access. Provide ventilation for products requiring controlled conditions. Standard storage trailers may be used in compliance with the above. Location of trailer(s) are to be approved by the Owner. Some storage may be possible within the building with prior approval of the Owner.
- Parking: Designated parking area(s) on site for the Contractor and his subcontractors and for their material trailers shall be coordinated with the Owner. The Contractor shall be responsible for maintaining the area free of trash and unsightly storage conditions.

SCHOOL CALENDAR

- Wednesday, June 17: Last day of school for students
- Thursday, June 18: Last day of school for staff.
- July 7 through August 6: Summer school Tuesday, Wednesday, Thursday 8:00 AM-12:00
    - Summer school will utilize 8-9 classrooms but rooms can shift to accommodate Work. Contractor to coordinate access to classrooms with the school.
- Summer Recreation Program
    - They utilize the separate "White Building" located to the South of the main building which is outside the Work area. They will utilize the playground located on East side of the school.
- Gym Schedule (affects 6 window openings)
    - July 6 Bleacher inspection and adjustment during the day
    - July 6-10: evenings 5:00-8:00 PM softball practice if inclement weather
    - August 19-26 gym floor will be stripped and refinished; no foot traffic.
- Staff return: Wednesday, August 26.
- First day of school: Monday, August 31.
- Labor Day is Monday, September 7.

BUILDING PERMITS

- Permits shall be applied for general construction, electrical and mechanical/plumbing. <u>The Town will not charge for the permits</u>. The Building Inspector's office is open Tuesday, Wednesday, Thursday from 9-4. Dan Kramer and Janet Caswell. 603-487-2500 X152.

END OF SECTION

SECTION 01600

MATERIAL, EQUIPMENT AND SUBSTITUTIONS

PART 1 – GENERAL

RELATED DOCUMENTS

- Section 01000 "Administrative Provisions" – Reference Standards.
- Section 01700 "Contract Closeout" – Operations and maintenance data; warranties and bonds.

SUMMARY

- Products.
- Transportation and handling.
- Storage and protection.
- Product options.
- Substitutions.

PRODUCTS

- Products include materials, equipment, and systems.
- Comply with Specifications and Referenced Standards as minimum requirements.
- To the Architect's best knowledge and belief, all products and materials specified for this Project are asbestos free. All products and materials installed or used on this Project must be asbestos free.

TRANSPORTATION AND HANDLING

- Transport products by appropriate methods to avoid damage. Deliver in undamaged, dry condition and in manufacturer's unopened containers or packaging.
- Provide equipment and personnel to handle products by appropriate methods to prevent soiling or damage.
- Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

STORAGE AND PROTECTION

- Store products in accordance with manufacturers' instructions, with seals and labels intact and legible. Store sensitive products in weathertight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.
- For exterior storage of fabricated products, place on supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- After installation, protect products from damage from traffic and construction operations.

PRODUCT OPTIONS

- Products specified by reference standards or by description only:
  - Any product meeting those standards will be reviewed for approval with proper documentation corresponding to referenced standards.
- Products specified by naming one or more manufacturers and product designations:
  - Any named product will be accepted. Submit a request for substitution during the bid period for any manufacturer and product not specifically named as indicated.
  - A named or accepted alternate manufacturer shall not imply that non-equal products by that manufacturer will be accepted.

SUBSTITUTIONS

- Only within the bid period will the Architect and the Owner consider requests from Contractors or Suppliers for substitutions. Subsequently, substitutions will be considered only when it is demonstrated that a product has become unavailable due to no fault of the Contractor or if it can be demonstrated that the Owner may realize an advantage of cost, time, or quality in accepting a substitution.
- Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- A request constitutes a representation, unless specifically qualified in writing, that the Contractor:
  - Has investigated proposed product and determined that it meets or exceeds all requirements of specified product.
  - Will provide the same warranty as for specified product.
  - Will coordinate installation and make other changes which may be required for work to be complete in all respects.
  - Waives claims for additional costs which may subsequently become apparent.
- Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate identification of the proposed substitution.
- Substitutions that will necessitate substantial revisions of Contract Documents will be considered only if the Owner or Contractor agrees to reimburse the Architect or Engineer's cost for making such revisions.
- The Architect in consultation with the Owner will determine acceptability of proposed substitutions and will notify the Contractor of acceptance or rejection in writing.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 – GENERAL

RELATED DOCUMENTS

- General and Supplementary Conditions
- Section 01500 "Construction Facilities and Temporary" – Cleaning during construction.

SUMMARY

- Closeout procedures.
- Final cleaning.
- Project record documents.
- Operation and maintenance manuals.
- Systems demonstration.
- Warranties and bonds.
- Spare parts and maintenance materials.
- Final accounting and payment.

CLOSEOUT PROCEDURES

- Comply with procedures stated in the General and Supplementary Conditions of the Contract for issuance of Certificate of Substantial Completion and Owner's occupancy.
- In addition to submittals required by the Conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments and sum remaining due, including retainages.
- The Contractor will issue a final change order reflecting approved adjustments, if any, to Contract Sum not previously made by Change Order.

FINAL CLEANING

- Perform final cleaning prior to final inspection.
- Clean roofs and drainage systems.
- Perform final cleaning as prescribed in related sections of this Project Manual.
- Clean site: sweep paved areas, rake clean other surfaces.
- Remove waste and surplus materials, rubbish and construction facilities from the project and from the entire site where construction related materials may have been deposited.

PROJECT RECORD DOCUMENTS

- Prepare a legible scanned file of all construction drawings (architectural, mechanical, electrical, plumbing, etc.)
- Prepare a scanned file of all approved shop drawings.
- At Contract Closeout, submit an electronic copy on disc of all record documents. The Architect and the Engineer shall review the submission for compliance with the specifications.

OPERATION AND MAINTENANCE MANUALS

- Provide data for:
  - ♦ Mechanical equipment and controls – Division 1500.
  - ♦ Electrical equipment and controls – Division 1600.
- At Contract Closeout, submit two (2) complete disc copies of the scanned project record documents.

- Provide a separate section for each system, with a table of contents.
- Include a directory listing the names, addresses, and telephone numbers of: Architect, Engineer(s), Contractor, Subcontractor(s), and Suppliers.
- Include operation and maintenance instructions for each system; giving names, addresses, and telephone numbers of Subcontractors and Suppliers.

SYSTEMS DEMONSTRATION

- Instruct Owner's personnel in operation, adjustment and maintenance of equipment and systems, using the operation and maintenance data as basis of instruction.

WARRANTIES AND BONDS

- Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.
- Submit this material prior to the final application for payment. All warranties shall start from the Date of Substantial Completion except where final acceptance of any item or system was delayed beyond that Date of Substantial Completion.

SPARE PARTS AND MAINTENANCE MATERIALS

- Provide products, spare parts and maintenance materials in quantities specified in each section, in addition to that required for completion of work. Deliver to a location designated by the Owner.

FINAL ACCOUNTING AND PAYMENT

- Submit a final statement of accounting giving total adjusted Contract Sum, previous payments and sum remaining due, including retainages.
  - Submit an affidavit stating that all subcontractors and suppliers have been paid and that all payroll obligations have been met for the payments previously made to the Contractor except any duly withheld retainage or appropriate portions thereof. AIA Document G706.
  - Submit an affidavit of release of liens from all applicable subcontractors and suppliers. AIA Document G706A.

END OF SECTION

SECTION 02070

SELECTIVE DEMOLITION

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to the Work of this Section.

SUMMARY

- This Section includes but is not necessarily limited to the following:
  - Existing aluminum exterior windows scheduled to be removed. It is expected that this work shall be performed on a progressive basis in order to preserve weather integrity and security.
  - Removal and disposal of existing window treatments. The Owner will be given an opportunity to salvage items if they so desire. NOTE: the window treatment in the Gym windows will be saved for reinstallation.
  - Existing wooden window sills shall remain. Remove and dispose of existing wood stops at window perimeters.
  - Remove the upper assembly of the existing rear entrance canopy leaving its structural frame intact.
  - Cut and patch of existing EPDM roofing for: junction with new canopy entrance, penetrations for HVAC piping and conduit, penetrations for structural support of HVAC units.
  - Selectively cut the existing tectum roof deck for installation of the steel support frame for new rooftop HVAC units and for pipe access.
  - Drilling holes through existing concrete block walls for running HVAC line sets and power into classrooms and through cross corridor partitions.
  - Removal of the existing soffit panels and associated trim along the 1956 and 1964 wings of the building.
  - Removal of abandoned ceiling mounted HVAC units located in 4 classrooms of the upper level of the 1987 wing.
  - Removal and disposal of suspended ceiling panels that are not reusable.
- Related sections include the following:
  - Division 15 and 16 Mechanical and Electrical for scope related to mechanical, plumbing, and electrical services.

PROJECT CONDITIONS

- The Contractor shall familiarize himself with the full extent of demolition by visiting the building and its site.
- The Owner has an asbestos survey and maintenance plan on file. At this time the only asbestos containing materials that have been identified are in the flooring of the older sections of the building. Samples have been taken of the old plaster ceilings and pipe insulation located above the current suspended ceiling systems and they have not tested positive. If the Contractor suspects any asbestos containing materials that will be impacted by their Work then they shall ask the Owner to engage a party to test and report on those materials.
- The Contractor and the Owner shall coordinate the need for moving of the Owner's furniture and loose items from designated work areas prior to the start of Work in those areas. The Contractor is not responsible for the movement of these items. This will need to be done on a progressive basis in the classrooms by the Owner. The Owner may opt to leave some furnishings in the room if they are out of the Contractor's way and covered with tarpaulins.

- The progressive sequence of demolition shall be reviewed and coordinated between the Contractor and the Owner on an ongoing basis.
- Existing finishes and construction that are to remain shall be properly protected.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

- The Contractor shall be solely responsible for all methods and means for accomplishing the scope of the demolition.
- Safety is of paramount concern. The Contractor shall be responsible for compliance with all applicable local, State and Federal codes, regulations and standards as they affect the Work. All utilities and connected devices shall be "made safe" and cut by responsible trades before removal.
- Provide proper dust, fume, vapor and noise control over the course of demolition. This shall also apply to materials in transport from the site with trucks and containers having proper cover and their loads secured.
- Records of transport, disposal sites, and dumping fees shall be maintained.
- Utilize fans to direct dust, fumes and vapors away from occupied spaces. If air is to be recirculated it shall be filtered to remove dust.
- All demolition waste shall be properly handled, transported and properly disposed of off site.
- All fees and permits related to demolition, transportation and disposal shall be the responsibility of the Contractor.
- If discovered conditions are not as anticipated; the Contractor shall promptly notify the Architect for clarification.
- Properly cap or cover all existing HVAC ductwork scheduled to remain so that dust, fumes and vapors do not contaminate ductwork or adjacent spaces.
- Protect existing items and finishes that are to remain.

END OF SECTION

SECTION 03000

REPAIR OF PRECAST CONCRETE SILLS

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections, apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Repair of existing precast concrete sills in the 1956 and 1964 areas of the building.
  - Some of the existing sills have been previously repaired and a render coat applied. Some of the render coat has spalled and is in need of repair.
  - Filed verify the scope and extent of repairs needed.
  - Minor spalling and cracks to be filled.
  - Full depth repair/reconstruction of missing sections of the precast sills with exposed rebar.
  - Top coating/sealer/surface render for all repaired and non-repaired precast concrete sills. Total linear footage of approximately
  - Coordinate repair work with removal of existing windows and installation of new windows.
  - Accessories and additives as needed for a complete installation.

SUBMITTALS

- Product Data for each proposed type of concrete repair and coating material proposed.

QUALITY ASSURANCE

- Installer Qualifications: Engage an experienced Installer who has completed concrete repairs similar in material, design and extent to that indicated for this Project and with a record of successful in-service performance.
- One of the qualified parties to contact would be Associated Concrete Coatings, Manchester, (603) 669 2780.

PART 2 – PRODUCTS

- Concrete patch, repair and coating products from the following sources:
  - Ardex patch and repair products.
  - Flexcrete patch, repair and render products.
  - Modac coatings by Sherwin Williams.
  - Any recognizable supplier and product suitable for the application.

PART 3 – EXECUTION

INSTALLATION GENERAL

- Clean the surfaces to be repaired, removing any loose concrete.
- Prepare surface to receive patching mix by use of bonding agent and/or moistening as recommended by manufacturer of patching compounds.
- Apply deep patch applications in multiple layers if so prescribed by the manufacturer.
- Bulk out patching compounds with aggregate if recommended for deep applications.
- Use restraining formwork if necessary to support horizontal applications.

- For render coat on all sills plus repaired sills apply product similar to Flexcrete Monolevel RM one-coat, fiber reinforced, waterproof product. Modac "paints" may also be used for surface render if suitable for the application.

ADJUSTING AND CLEANING

- Perform a final inspection of precast sills upon completion of window installation. Repair and/or touchup any damaged sills, abraded or discolored coatings.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- The scope of this project shall include but not be limited to the following:
  - Wood furring, grounds, nailers, and blocking.
  - APA span rated structural use panels at exterior window wall infill and at new canopy overbuild. Wall and roof panels.
  - Framing of exterior infill walls, and canopy.
  - Pressure treated wood to infill masonry openings where existing HVAC ductwork is being removed. Upper level classrooms near the gym. Total of 4 openings.
  - SPECIAL NOTE: the exterior wall infill framing shall utilize "advanced framing" also known as "lean-framing" technique in order to maximize wall insulation in the stud cavities. Prior to the start of framing work the Contractor and the Architect shall meet to review these requirements.
  - Exterior strapping and shimming at soffits as required.

- Related Sections: The following Sections contain requirements that relate to this Section:
  - Division 6 Section "Finish Carpentry" for nonstructural carpentry items exposed to view and not specified in another Section.
  - Division 7 Section "Exterior Siding and Trim".
  - Division 7 Section "Building Insulation".
  - Division 7 Section "Membrane Roofing" for roofing applied over wood framed and sheathed canopy.
  - Division 9 Section for "Gypsum Board Products" to be attached to wood frame assemblies.

DEFINITIONS

- Rough Carpentry: Carpentry work not specified in other Sections and not exposed to view per the project's design conditions.

SUBMITTALS

- General: Submit the following in accordance with the Conditions of the Contract and Division 1 Specification Sections.
- Product Data for the following products:
  - Engineered wood products and accessories with manufacturer literature.
  - Dimension lumber.
  - Construction adhesives.
  - Metal anchorage accessories.

DELIVERY, STORAGE, AND HANDLING

- Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Properly and neatly stack lumber, and panels. Provide for air circulation within and around stacks and under temporary coverings.

PART 2 – PRODUCTS

MANUFACTURERS

- Provide panel products as follows:
  - Structural wall and roof panels.
    - Zip System by Huber Engineered Woods LLC
      - Zip-R exterior wall sheathing; 1 ½" combined panel thickness, R-6.6 thermal value at infill window walls.
      - Zip System 5/8" roof panels at canopy.
      - Zip System ½" wall panels at canopy.
      - Zip Tape 3 ¾" width for all panel seams and openings and/or Zip System liquid flash.
      - Zip stretch tape 6" width for window rough opening sill/jamb flashing and/or Zip System liquid flash. (Other flexible flashing tapes such as "Vicor" may be used at rough openings if compatible with Zip System products.

LUMBER, GENERAL

- Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.
- Grade Stamps: Provide framing lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, and moisture content at time of surfacing, and mill.
- Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified.
  - Provide dressed lumber, S4S, unless otherwise indicated.
  - Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

DIMENSION LUMBER

- General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.
  - Grade: No. 2 or better.
  - Species: SPF (spruce-pine-fir north); NLGA.

MISCELLANEOUS LUMBER AND STRAPPING

- General: Provide lumber for support or attachment of other construction, including support bases, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

FASTENERS

- General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture and as recommended by panel product manufacturers.
  - Where rough carpentry is potentially exposed to weather, 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.
- Fastener type, length and its penetration into sub-framing shall be as prescribed by sheathing manufacturer.

PART 3 – EXECUTION

INSTALLATION, GENERAL

- Discard units of material with defects that impair quality of rough carpentry and that are too small to use with minimum number of joints for optimum joint arrangement.
- Discard lumber that is considered too warped for practical use or which exhibits excessive wanes or checking.
- Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- Install all Zip System panels in strict accordance with the manufacturer's recommendations. A copy of those recommendations and their installation manual shall be kept at the site for reference.
- Use Zip System tape and/or liquid flash at all panel to panel junctions and at all junctions of panel to adjacent surfaces such as masonry. Note: a more effective seal between panels and abutting masonry may be achieved using Zip System liquid flash product.
- Prepare window rough openings with Zip System compatible stretch tape and/or liquid flash products.
- Seal perimeter of any sheathing penetrations for pipe or conduit with stretch tape or liquid flash.
- Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - CABO NER-272 for power-driven staples, P-nails, and allied fasteners.
  - Published requirements of metal framing anchor manufacturer.
  - "Recommended Nailing Schedule" of referenced framing standard and with AFPA's "National Design Specifications for Wood Construction."
  - Fastening Schedule of the current IBC International Building Code.
- Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; pre-drill as required.
- Use hot-dip galvanized or stainless-steel nails where rough carpentry is subject to weather, in ground contact, or in area of high relative humidity.

WALL FRAMING

- General: Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Nail or anchor plates to supporting construction.
- Construct corners with 3 or more studs. Provide miscellaneous blocking and framing as shown and as required to support finish materials and trim
- Frame openings with single studs and headers as detailed. Avoid build-up of unnecessary members around openings that will reduce the effective volume of insulation; use "LEAN" framing techniques.

WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- Install wood grounds, nailers, blocking, and sleepers where shown and where required for attaching other work. Cut and shim as required for true line and level of attached work. Coordinate locations with other work involved.

END OF SECTION

SECTION 06200

FINISH CARPENTRY

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Interior standing and running trim to be painted. This shall include but not be limited to:
    - New wood window sills at infill wall openings.
    - Wood stops at all window/GWB or masonry junctions at heads and jambs.
    - Plywood panel infill where 4 HVAC units are removed from upper level classrooms.

- Related Sections: The following Sections contain requirements that relate to this Section:
  - Division 6 Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
  - Division 7 section "Sealants, Caulking and Firestopping" for application of sealant at abutting conditions.
  - Division 9 Section "Painting" for painting of finish carpentry.

SUBMITTALS

- Written verification of wood grade and species proposed for use.

DELIVERY, STORAGE, AND HANDLING

- Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings.
- Do not deliver interior finish carpentry until environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

PART 2 – PRODUCTS

MATERIALS, GENERAL

- Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," for lumber and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.

INTERIOR STANDING AND RUNNING TRIM

- Standing and Running Trim for Painted Finish: Any closed-grain hardwood such as Poplar listed in AWI Section 300 for lumber worked products, and dimension lumber 2 inches and thinner in nominal thickness.

MISCELLANEOUS MATERIALS

- Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general carpentry use.

FABRICATION

- Wood Moisture Content: Comply with requirements of specified inspection agencies and manufacturer's recommendations for moisture content of finish carpentry on relative humidity conditions existing during time of fabrication and in installation areas.
- Fabricate finish carpentry to dimensions, profiles, and details indicated.
  - Ease edges of lumber to 1/16-inch radius.

PART 3 – EXECUTION

PREPARATION

- Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- Prime and backprime lumber for painted finish. Comply with requirements for surface preparation and application in division 9 Section "Painting."

INSTALLATION, GENERAL

- Do not use finish carpentry materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
- Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
  - Scribe and cut finish carpentry to fit adjoining work.
  - Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
  - Install to tolerance of 1/8 inch in 96 inches for plumb and level.

STANDING AND RUNNING TRIM INSTALLATION

- Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available.
  - Install trim after gypsum board joint finishing operations are completed.
  - Drill pilot holes if necessary to prevent splitting especially on narrow window stops.
  - Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes with putty.

ADJUSTMENT, CLEANING, AND PROTECTION

- Repair damaged or defective finish carpentry to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.
- Clean finish carpentry on exposed and semi-exposed surfaces.

END OF SECTION

SECTION 07210

BUILDING INSULATION

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to the Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Insulation of voids in existing soffits. Batt insulation along face of beams, packed into voids, and spray foam overlay at minor gaps.
  - Low expansion spray foam insulation/sealant products to fill voids at perimeter of windows, penetrations, and transitions in the envelope to ensure its overall integrity.
  - Concealed glass-fiber insulation between studs of infill wall assembly. R-21.
  - Concealed glass fiber insulation friction fit between studs at top of wall infill along the mechanical room.
  - Rigid and batt insulation to fill wall cavities after removal of 4 HVAC units in upper level classrooms.
  - Sill seal gasket applied between framing and masonry at jambs of infill walls.

- Related Sections include the following:
  - Division 6 Section “Rough Framing” for application of Zip-R sheathing at infill wall assembly.
  - Division 8 Section “Fiberglass Windows” for low expansion spray-foam insulation/sealant along interior perimeter of window openings.

SUBMITTALS

- Product data for each type of product specified including compliance of insulation products with specified requirements including those for thermal resistance, fire-test-response characteristics, water-vapor transmission, water absorption, and other properties.

QUALITY ASSURANCE

- Single-Source Responsibility for Insulation Products: Obtain each type of building insulation from a single manufacturer.
- Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics specified elsewhere in this Section as determined by testing identical products per test method indicated below by UL. Identify materials with appropriate markings of applicable testing and inspecting agency.
  - Surface-Burning Characteristics: ASTM E 84.
  - Fire-Resistance Ratings: ASTM E 119.
  - Combustion Characteristics: ASTM E 136.

DELIVERY, STORAGE, AND HANDLING

- Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. If stored outside it shall be above ground and completely wrapped with waterproof cover. Comply with manufacturer’s written instructions for handling, storing, and protecting during installation.

- Protect plastic insulation as follows:
  - ♦ Do not expose to sunlight, except to extent necessary for period of installation and concealment.
  - ♦ Protect against ignition at all times.
  - ♦ Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 – PRODUCTS

MANUFACTURERS

- MANUFACTURERS: Subject to compliance with requirements, provide insulation products by one of the following:

♦ Glass-Fiber Insulation: For concealed framing locations and miscellaneous voids:
- ▪ Owens-Corning Fiberglass Corporation.
- ▪ CertainTeed Corporation.
- ▪ Knauf Fiber Glass
- ▪ Johns Manville.
- ▪ Approved equal products by other manufacturers

♦ Low-Expansion Foam/Sealant at interior perimeter of windows and doors:
- Dow "Great Stuff Pro Window and Door Insulating Foam" (product both seals and insulates)
- Approved equal products by other manufacturers.

♦ Low Expansion Foam Products: For applications to fill general voids in thermal envelope:
- ▪ Foampower Products – HandiFoam one or two-component product.
- ▪ Ultra Seal
- ▪ Froth Pac
- ▪ Approved equal products by other manufacturers

♦ Sill seal insulation: For concealed application between wall studs and masonry walls:
- ▪ Dow ribbed polyurethane foam sill seal; 5.5" wide x 50' roll.
- ▪ Any recognized source of similar sill seal product.

INSULATING MATERIALS

- General: Provide insulating materials that comply with requirements and referenced standards.
  - Preformed Units: Sizes to fit applications indicated; selected from manufacturer's standard thicknesses, widths, lengths.
- Unfaced Glass-Fiber Blanket Insulation: Acoustic insulation combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665, Type I (blankets without membrane facing).
  - ♦ Mineral-Fiber Type: Fibers manufactured from glass, slag wool, or rock wool.
  - ♦ Thickness: Provide material of thickness required to achieve R value noted on drawings.
  - ♦ Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indices of 25 and 50, respectively.
  - ♦ Insulation with reduced formaldehyde content.
- Low Expansion Foam:
  - ♦ One or two component expanding polyurethane foam insulation.

PART 3 – EXECUTION

EXAMINATION

- Examine substrates and conditions, with Installer present for compliance with requirements of Sections in which substrates and related work are specified and to determine if other conditions affecting performance of insulation are satisfactory. Do not proceed with installation until unsatisfactory

conditions have been corrected. Do not proceed with installation of insulation until building envelope is sufficiently water tight.

INSTALLATION, GENERAL

- Clean substrates of substances harmful to insulations, including removing projections that interfere with insulation attachment.
- Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- Install materials that are undamaged, dry, unsoiled, and that have not been exposed at any time to ice and snow.
- Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.

INSTALLATION OF GLASS-FIBER BUILDING INSULATION

- Install glass-fiber blankets in cavities formed by framing members according to the following requirements:
  - Use blanket widths and lengths that fill cavities formed by framing members. Where more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
  - Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
  - Glass-fiber blankets that have been subject to moisture before, during, or after installation shall be removed and replaced with dry material.

LOW EXPANSION FOAM

- General: Low expansion foam is to be used to complete the thermal integrity of the building envelope where other insulation products may not effectively do so. This shall include but not be limited to: perimeter of windows and other openings.
- Cracks, gaps, and crevices shall be filled prior to the application of interior finishes.
- Excess product shall be removed where it will obstruct other material application. Finished surfaces such as window frames shall be cleaned of all residue.
- Apply within manufacturer's recommended temperature range.

PROTECTION

- General: Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION

SECTION 07460

EXTERIOR SIDING AND TRIM

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to the Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes but is not necessarily limited to the following scope of work:
  - Exterior smooth (not textured) finish siding and trim consisting of cementitious fiber cement or engineered wood clapboard and trim. Factory primed products for field painting.
  - Vinyl bead board soffit panels and Entrance Canopy ceiling.
  - Aluminum brake form flashings
  - Compatible sealant products as recommended by manufacturers.
  - Fasteners as recommended by the manufacturers for the substrates.
  - Drainage plane/rainscreen sheeting applied over wall sheathing and behind siding and trim.

- Related Sections: The following Sections contain requirements that relate to this Section:
  - Division 6 Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
  - Division 9 Section "Painting" for painting of exterior siding and trim.

SUBMITTALS

- Product data for manufactured exterior siding, trim, and accessories.
- Manufacturer's installation manual (A copy of which will be kept at the job site and used for reference prior and during installation)
- Confirmation of proposed fastener type and lengths for substrate conditions.

DELIVERY, STORAGE, AND HANDLING

- Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings.

PART 2 – PRODUCTS

EXTERIOR CLAPBOARD SIDING AND TRIM

- Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - James Hardie – Fiber cement products
  - Louisiana Pacific – Engineered wood products
  - Approved equal manufacturersand products.
- Vinyl beadboard soffit manufacturers:
  - CertainTeed
  - Mastic
  - Approved equal manufacturers and products.
- Drainage plane/rainscreen sheeting:

- Bejamin Obdyke – Home Slicker Classic 6 mm
- MTI Gravity Cavity 1/8”
- Approved equal manufacturers and products.

VINYL SOFFITS AND TRIM

- Vinyl beadboard soffits and canopy ceiling: Similar to CertainTeed triple 2” invisibly-vented vinyl beadboard soffit panels. Panels are 12-0 long and 3/8” thick. Use vinyl scotia trim #56901 at perimeter of the soffit where required. Color to be Colonial White.
- Vented vinyl soffits: Similar to CertainTeed triple 3 ¼” Invisi-vent with 10 square inches of ventilation per square foot. Use vinyl “J” trim to support and close the outboard edge of soffit panels where they abut the fiber cement fascias. Interior edge of soffit to be supported by frieze trim board. Run perpendicular to the building. Color to be Colonial White.

BRAKE FORMED ALUMINUM TRIM AND FLASHINGS

- Roofing contractor may be a source of brake formed aluminum flashings.
- “Z” flashing continuous at top of horizontal trim where there is clapboard siding above. 2” vertical leg, 1 1/8” horizontal leg plus a ¼” drip along the length of the horizontal leg.
- Aluminum sub sills beneath infill walls and beneath replacement windows. (Coordinate with window supplier/installer the provision of brake formed sub sills beneath the windows and who is responsible to supply and install them.)
- Aluminum shall be factory finished white.
- Minimum 24 gauge sheet aluminum.

MISCELLANEOUS MATERIALS

- Fasteners suitable for exterior use: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible. Use finish nails on trim as recommended by manufacturer, nail trim to trim at corners.
- Joint flashing at abutting clapboard siding; 30 pound felt, “Tyvek” strips, or other proprietary products acceptable to siding manufacturer.
- Face nailing of siding shall be limited as much as possible. Unavoidable face nailing conditions include all trim conditions, clapboards abutting horizontal trim (at frieze boards and beneath window sills) or other horizontal trim conditions.
- Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general exterior carpentry use.

PART 3 – EXECUTION

PREPARATION

- Condition materials to average prevailing humidity conditions before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- Prime cut edges for painted finish. Comply with requirements for surface preparation and application in division 9 Section “Painting.”
- The installers shall familiarize themselves with the installation recommendations of the manufacturer. In any case the Best Practices-Installation Guide prepared by James Hardie shall be used as a definitive reference source for the project. This Guide provides recommended fastener types and much useful information for ease of installation and for a long lived service life of the installation. A copy of this Guide shall be available at the job site for reference (not filed in the office!).

INSTALLATION, GENERAL

- Do not use materials that are unsound, warped, improperly treated or finished or too small to fabricate with proper jointing arrangements.

- Do not use manufactured units with defective surfaces, sizes, or patterns.

- Install plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
  - Scribe and cut to fit adjoining work.
  - Install to tolerance of 1/8 inch in 96 inches for plumb and level. Provide cut-outs for mechanical and electrical items that penetrate exposed surfaces of trim and siding.
- Application of sealant: Do not apply sealant at butt joints of siding. Apply sealant where siding meets vertical and horizontal trim boards in accordance with manufacturer's recommendations. Apply sealant between the windows and the surrounding trim as recommended by window manufacturer.
- Maintain proper air gapping where siding descends onto horizontal trim and over aluminum flashing.
- Painting: as recommended by manufacturer, all siding and trim shall be painted within 180 days of its exposure to weather. All products are factory primed. Confirm which primer was used at the factory to ensure paint compatibility. The PH level of the primer should be less than 10 for maximum paint compatibility.

DRAINAGE PLANE/RAINSCREEN SHEETING

- Install sheeting over Zip sheathing in accordance with manufacturer's instructions.
- Allow for air flow/venting of the drainage plane.
- Apply continuously behind siding and trim. Cut to fit around window openings.

EXTERIOR CLAPBOARD SIDING AND TRIM

- Handle and store materials in accordance with manufacturer's recommendations.
- Install with minimum number of butt joints practical.
- Installation shall be in strict accordance with the supplying manufacturer's Installation Manual.
- Use brake form aluminum flashing at locations shown on the details and as required above horizontal trim
- All cut edges of horizontal siding and trim shall be field painted.

ADJUSTMENT, CLEANING, AND PROTECTION

- Repair damaged or defective siding and trim to eliminate functional or visual defects. Where not possible to repair; replace the installed material. Adjust joinery for uniform appearance. Provide final protection and maintain conditions that ensure the installation is without damage or deterioration at the time of Substantial Completion.

END OF SECTION

SECTION 07500

MEMBRANE ROOFING

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes:
  - Single-ply EPDM membrane roofing; a fully adhered system to patch around new roof penetrations for the HVAC support frame, associated HVAC and Electrical penetrations, and for the overlay roof at new canopy.
  - Brake formed aluminum fascia and flashing furnished and installed by this contractor at the new Canopy.
  - Miscellaneous accessories and fasteners.
- Related Sections include the following:
  - Division 2 Section "Selective Demolition" for removal of existing roof membrane, fascias, etc.
  - Division 6 Section "Rough Carpentry" for wood framing and roof sheathing at new Canopy.
  - Division 7 Section "Building Insulation" for repair of insulation around new roof penetrations.
  - Division 15 Mechanical for roof penetrations needed to connect with new HVAC units.
  - Division 16 Electrical for roof penetrations needed for power connection to new HVAC units.

SUBMITTALS

- General: Submit the following items in this Article according to the Conditions of the contract and Division 1 Specification Sections:
  - Manufacturer's product data for EPDM membrane, including applicable details of construction.

POTENTIAL SUBCONTRACTOR

- The roofing contractor who has been involved with recent work at the school is Bill Anderson with North Point Roofing; contact information is wanderson@northpointroofing.com cell 603-568-1492.
- You are not obligated to use this party; this is provided to you as a convenience as you search for a party to perform this portion of the Work.

QUALITY ASSURANCE

- Single-source responsibility for membrane roofing.
- Installer Qualifications: Engage an experienced Installer who has successfully completed applications similar in material, design, and extent to that indicated for the Project and that has resulted in construction with a record of successful in-service performance. The installer shall be an authorized and trained applicator of the proposed manufacturer's products and systems.

DELIVERY, STORAGE, AND HANDLING

- Handle and store materials at the Project site in a manner to prevent damage, staining, or other physical damage. Comply with manufacturer's recommendations for job-site storage, handling and protection.

PROJECT CONDITIONS

- Weather Limitations: Proceed with installing single-ply membrane roofing only when existing and forecasted weather conditions will permit work to be performed according to manufacturer's recommendations and warranty requirements, and when substrate is completely dry.
- Pay particular attention to weather induced interruptions of the installation process where water may get under previously installed sections of the roof.

WARRANTY

- Submit a copy of manufacturer's written warranty agreeing to repair or replace single-ply membrane roofing that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to deterioration beyond normal weathering.
  - ♦ Warranty Period: Manufacturer's standard material warranty but no less than 20 years after date of Substantial Completion.

PART 2 – PRODUCTS

MANUFACTURERS

- Manufacturers: Subject to compliance with requirements, provide single-ply membrane produced by one of the following:
  - ♦ Carlisle Syntec Systems.
  - ♦ Firestone Building Products Company.
  - ♦ GenFlex Roofing Systems.
  - ♦ Approved equal manufacturer and products.

MEMBRANE ROOFING

- Single-ply EPDM (Ethylene Propylene Diene Monomer) compounded elastomer. **Thickness of .060** inch for fully adhered installation conforming to the following minimum properties:
- Adjunct materials shall be as recommended by the single-ply membrane manufacturer: Adhesives, nite seal, etc.

BRAKE METAL TRIM AND FLASHING

- Brake metal trim and flashing at the perimeter of the new Canopy's roof.
- All brake metal trim shall match existing color.
- Brake metal for exposed fascias and trim conditions shall be 0.040 aluminum minimum.

PART 3 – EXECUTION

EXAMINATION

- Examine the substrate for compliance with requirements for substrates, installation tolerances, and other conditions affecting performance of roof installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

PREPARATION

- Clean substrates of projections, foreign materials and substances detrimental to the application. Fill large voids in substrate with compatible materials. Gaps of ¼" or greater shall be filled with pourable sealants.
- Coordinate installation with flashings and other adjoining work to ensure proper sequencing.

INSTALLATION

- General: Comply with manufacturer's instructions, standard details and recommendations.

- Position membrane over approved substrate without stretching, lapping edges a minimum of 5 inches with 3" taped seams. Allow membrane to "relax" for approximately 30 minutes prior to executing splices.
- Use Nite Seal at the end of each day's work.

PROTECTION

- Where construction traffic must continue over the finished roof surface; provide durable protection and repair/replace any damaged areas.

END OF SECTION

SECTION 07900

SEALANTS, CAULKING AND FIRESTOPPING

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specifications Sections shall apply to the Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- The applications for joint sealants, caulking and firestopping as work of this Section include, but are not limited to, the following:
  - As required to make exterior of the building watertight.
  - Seal between different exterior finish materials. Seal siding and trim as recommended by siding manufacturer to include but not be limited to: siding abutting trim, trim abutting windows and masonry, around wall penetrations, etc.
  - Sealant products used to make wall assemblies "resistant to the passage of smoke". Note that these are not rated assemblies and do not require rated firestop products. Locations include: at the perimeter of wall penetrations made for running of HVAC line sets and wiring through masonry partitions; penetrations in top of wall within the mechanical room.

- Related Sections include the following:
  - Division 6 Section "Finish Carpentry" for sealant at junction of trim and painted wall surfaces.
  - Division 7 Section "Exterior Siding and Trim" for sealant at manufacturer recommended locations.
  - Division 8 Section "Fiberglass Windows" for sealant applications.
  - Divisions 15 and 16 for mechanical, and electrical penetrations of non-rated assemblies.

SUBMITTALS

- Product data, handling/installation/curing instructions, and performance tested data sheets for each product required.

QUALITY ASSURANCE

- Installer Qualification: An experienced Installer who has completed work similar in material, design and extent to that required for the Project, which has resulted in construction with a record of successful in-service performance.
- System Performance: Joint sealants are required to establish and maintain airtight, and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. Failures of installed sealants to comply with this requirement will be recognized as failures of materials and workmanship.

DELIVERY, STORAGE AND HANDLING

- Store and handle materials in compliance with manufacturer's recommendations.

PART 2 – PRODUCTS

MATERIALS, GENERAL

- Compatibility: Provide joint sealers, joint fillers, backer rods, primers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- Colors: Provide color of exposed joint sealers indicated, or if not indicated, as selected by Architect from manufacturer's standard colors.
- Sealant for interior joints less than ½" in width shall be premium grade polyurethane.
- Sealant for interior joints greater than ½" in width shall be two component polyurethane base elastomeric sealant.
- Sealant for all exterior joints shall be low modulus silicone.
- Sealant products as recommended and approved by manufacturers of building components for compatibility with their products and to ensure a weathertight seal.

PART 3 – EXECUTION

EXAMINATION

- Examine joints indicated to receive joint sealers, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

PREPARATION

- Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturer.
- Joint Priming: Prime joint substrates where recommended by joint sealer manufacturer. Do not spill onto adjoining surfaces.

INSTALLATION

- General: Comply with joint sealer manufacturer's printed installation instructions applicable to products and application indicated.
- Installation of Smoke resistant sealant products: Install sealant and other accessory materials around mechanical and electrical services penetrating floors and walls to provide resistance to the passage of smoke.

CLEANING AND PROTECTION

- Clean off excess sealants or sealant smears as work progresses by methods approved by manufacturers of the sealants.
- Protect joint sealers during and after curing period from contact with contaminating substances such as dust and dirt or from damage resulting from construction operations. Repair areas to be indistinguishable from original work.

END OF SECTION

SECTION 08572

FIBERGLASS WINDOWS

PART I – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- Fiberglass window units and accessories:
  - Single-hung, awning, and fixed fiberglass window units as scheduled.
  - Insect screens for all operable sash.
  - Associated aspects of their installation:
    - Application of exterior air/water barrier tapes or sealant at perimeter of window rough openings.
    - Application of exterior backer rod and sealant at perimeter of windows abutting masonry or siding and trim.
    - Application of low expansion foam/sealant between window units and the rough opening along interior perimeter.

- Related Sections include the following:
  - Division 3 Section "Repair of Precast Concrete Sills" to coordinate repair of sills with installation of windows.
  - Division 6 Section "Rough Carpentry" for coordination of new wall infill and rough openings to receive windows. This includes perimeter flashings at the rough openings.
  - Division 6 Section "Finish Carpentry" for interior wood stops and sills at window openings.
  - Division 7 Section "Building Insulation" for perimeter application of low expansion foam insulation/sealant.
  - Division 7 Section "Exterior Siding and Trim" for brake metal aluminum sill flashing.
  - Division 7 Section "Sealants, Caulking and Firestopping" for sealant and backer rod at window perimeters.

SUBMITTALS

- General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- Product data including manufacturer's specifications and installation recommendations for windows required for this project. Test reports certifying that products have been tested and comply with performance requirements.
- A schedule of window units identifying them by unit type, size, accessories, and quantity.
- Manufacturer's shop drawings indicating dimensions, construction, connections, anchorage method and locations, hardware locations and installation details specific to this application.
- Instructions for cleaning and maintenance of windows including hardware, finishes and components.
- Proposed corrosion resistant fasteners for both wood and masonry jamb conditions.

PERFORMANCE REQUIREMENTS

- Window units shall meet or exceed Energy Star performance Guidelines.

- Windows shall meet Rating H-LC30 to H-LC50. Design pressure of 30-50 psf.
- Window air leakage shall be tested per ASTM E547 and shall not exceed 0.25 cfm/SF when tested at 1.57 psf (25 mph).
- Water penetration shall be tested per ASTM E547. No water penetration at 60 psf (48 mph) after 4 cycles of 5 minutes each.
- Using "Sun Defense" glazing the standard window performance values for single hung units shall be U = 0.28 to 0.31 minimum and 0.19 to 0.21 Solar Heat Gain Coefficient (SHGC) minimum.

DELIVERY, STORAGE AND HANDLING

- Deliver windows in the manufacturer's original protective packaging.
- Store window units in a clean and dry location. Coordinate with the Owner the possible indoor storage of the units or arrange for a storage trailer on the site.

WARRANTY

- Manufacturer's Warranty: Provide written warranty signed by the manufacturer agreeing to replace window units which fail in materials or workmanship within the time period indicated below. Failure of materials or workmanship includes excessive leakage or air infiltration, excessive deflections, faulty operation of sash, deterioration of finish or construction in excess of normal weathering, and defects in hardware, weather-stripping, and other components of the work. This warranty shall be in addition to and not a limitation of other rights the Owner may have under the Contract.
  - ♦ Window components (non-glass materials and workmanship): Warranty period shall be a minimum of 10 years after date of receipt of the product.
  - ♦ Insulated Glazing: Warranty period shall be a minimum of 20 years after date of receipt of the product.

PART 2 – PRODUCTS

MANUFACTURERS

- Subject to compliance with requirements, provide manufacturer's standard or custom size window units as follows:
  - ▪ Products used as the basis of design are by Pella Corporation, (Impervia product line), 102 Main Street, Pella, Iowa 50219; 800-54-PELLA www.pella.com. Local representative is Lee Ransom 1- 978-490-6934 ransomlc@pellaboston.com .
  - ▪ A schedule of unit types, locations and dimensions is provided on the drawings.
  - ♦ Alternative manufacturers and products: Equivalent type windows by other listed manufacturers may be accepted, provided that the unit dimensions can be matched, and that U factors and SHGC are similar and profiles are similar.
    - ▪ Marvin "Essential" (formerly branded as Integrity product line) All-Ultrex Window products.
    - ▪ Available through local distributors including Millwork Masters.
- Subject to compliance with requirements, furnish and install manufacturer recommended perimeter flashing/sealants at 4 sides of window openings. One of the following:
  - ▪ Windowrap
  - ▪ Vicor
  - ▪ Pella Smartflash
  - ▪ Any recognized and compatible product for this application.

MATERIALS

- All window units shall be factory finished white on all visible surfaces including insect screen frames.
- "Finelight" grilles, ¾" profile set between the glass panes consistent with Architect's elevations. (GBG grilles-between-the-glass) color to be white.
- Insect screens shall be provided for all operable sash. Pella "InView" screening.

- Glass and Glazing: "Sun Defense" insulating glass with argon filled core; 11/16" glass assembly; Low-E (emissivity) coating, non-high altitude application, additional coatings to reduce solar heat gain.
- Glazing Seal: Manufacturer's standard extruded, vinyl or butyl glazing gasket providing weathertight seal.
- At new framed infill walls: Furnish units with nailing flanges on 4 sides.
- At existing masonry openings: Furnish units with block frames, predrilled fastener locations on jambs and plugs. If necessitated by field conditions the windows could also be installed using a clip anchor method.
- For openings to be filled with multiple window units. Factory mull ganged unit assemblies as large as practical.
- Furnish window frames with insulating foam infill for increased insulation and reduced conductivity.
- Fasteners: Comply with manufacturer's recommendations and standard industry practices for type, location, quantity, and size of installation fasteners. Proposed fasteners must be submitted for approval and must be corrosion resistant.

PART 3 – EXECUTION

VERIFICATION AND QUALITY ASSURANCE

- The school would like to facilitate the early order of windows to have them ready for the start of Work in June.
- Prior to finalizing the window order; field verify all masonry openings that are to receive replacement windows. Those windows to be installed at wall infill locations do not require verification. This may require some selective removal of interior trims to verify some dimensions and conditions at masonry openings. Make conditions weathertight for the interim period after these verifications.
- A representative of the window manufacturer/supplier shall assist the Contractor with the field verification of replacement window sizing.
- A representative of the window manufacturer/supplier shall be present to observe and advise for the installation of the first 2 representative window applications. One: A unit installed in a masonry opening with block frame window unit. Two: A unit installed in a rough opening of the infill walls using a flanged window unit. Demonstrate preparation of the openings with recommended barriers and flashings. Complete the window installation along with perimeter flashings. Contractor to coordinate the installation of these 2 first units on same day and notify Architect of this date.

INSTALLATION

- Comply with manufacturer's instructions and recommendations for installation of window units, fasteners, hardware, accessories, and other components of the work.
- Set units plumb, level, and true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place. Sash shall operate properly with uniform ease.
- Set windows in center of their rough openings to better allow for consistent insulation/sealant at their perimeter.
- Verify that all openings have been properly prepared to receive the window units. Openings clean and properly flashed.
- At masonry openings:
  - Coordinate the fabrication and installation of brake metal aluminum subsills.
  - Continuously seal the perimeter of the window units where they abut the jambs and head. Install backer road and sealant in accordance with manufacturer's recommendations.
- At infill walls with individual flanged window units:
  - Ensure alignment of multiple window units across the oversized openings to better ensure siding and trim alignment on the building's exterior
  - Complete window installation with exterior water resistant barrier using flashing tape or sealant. Apply and integrate flashing tapes using watershed principles in accordance with sheathing and window manufacturer's instructions.

  - Seal the exterior perimeter of window flanges to the insulating sheathing which serves as the air barrier and drainage plane.
  - The installer shall pay careful attention to the manufacturer's recommendations for perimeter flashing, sealant and their layering to prevent water infiltration and to allow for sill drainage.
  - At window sills: consistent with manufacturer's instructions allow for gaps in sealant behind the nailing flanges and do not apply flashing tape over the nailing flanges at the sills.
- Insulate and seal the interior perimeter of window units with low-expansion foam/sealant and continuously overlap with the flashing tape or sealant of the rough oepning. This is to ensure integrity of building envelope and vapor barrier. A product such as Dow "Great Stuff ProWindow and Door Insulating Foam" will both seal and insulate the gap in rough openings.
- Coordinate installation of brake from aluminum sills at all windows.

ADJUSTING, CLEANING AND PROTECTION

- Clean interior and exterior surfaces after installation. Avoid damage to all exposed surfaces. Remove any excess glazing sealants, dirt and other deleterious substances.
- Remove all manufacturer's labels from units.
- Remove and replace glass/sash which have been broken, chipped, cracked, abraded or damaged in other ways during the construction period, including natural causes, accidents and vandalism.
- Protect window units from damage until time of Substantial Completion.
- Perform a final wash and clean on both faces before Substantial Completion.

END OF SECTION

SECTION 09250

STEEL FRAMING AND GYPSUM BOARD PRODUCTS

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to the Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Gypsum based board products attached to steel framing and wood framing.
  - Steel framing (at mechanical room for isolation from top of existing masonry partition to the underside of metal floor deck above).
  - Fasteners.
  - Joint treatment materials.

- Related Sections: The following sections contain requirements that relate to this Section:
  - Division 6 Section "Rough Carpentry" for infill wall framing at oversized window openings.
  - Division 7 Section "Sealants, Caulking and Firestopping" for complete "smoke resistive" separation of the mechanical room.
  - Division 9 Section "Painting" for exposed to view GWB.

SUBMITTALS

- Product Data for steel framing, gypsum board, fasteners and joint compound.

QUALITY ASSURANCE

- Obtain each type of gypsum board and other products from a single manufacturer.
- AISI "Specifications for the Design of Cold-Formed Structural Members," latest edition for design of light gauge framing systems.

DELIVERY, STORAGE, AND HANDLING

- Store materials inside under cover and keep them dry and protected against damage. Neatly stack panel products flat to prevent warp or sagging.

PROJECT CONDITIONS

- Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid rapid drying of finishing materials.

PART 2 – PRODUCTS

MANUFACTURERS

- Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - Steel Framing:
    - From any recognizable source
  - Gypsum Board and Related Products:
    - From any recognizable source.

STEEL FRAMING SYSTEMS

- Provide studs, runners, and other framing members as indicated or needed for a complete installation and to meet performance criteria.
- Interior non-loadbearing partitions shall consist of the following: "C" shaped, 3 5/8" studs, 16" c/c spacing, 25 gauge with head and sill tracks.
- All metal framing shall be electro-galvanized.
- All accessories shall be factory treated to prevent corrosion.

GYPSUM BOARD PRODUCTS

- General: Gypsum board panels shall be of 48-inch width and in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.
- Gypsum Wallboard (GWB): Proprietary type in conformance with ASTM C 36. Product throughout shall be 5/8-inch thick, suitable for rated assemblies (Type X), with tapered edges.

JOINT TREATMENT MATERIALS

- General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.
- Joint Tape for Gypsum Board: Paper reinforcing tape, or glass fiber reinforcing tape.
- Drying-Type Joint Compounds for Gypsum Board: Factory-mixed or field-mixed vinyl-based products of all-purpose compound formulated for both taping and topping compounds.

FASTENERS

- Steel drill screws complying with ASTM C 1002 for the following applications:
  - Fastening gypsum board to steel members less than 0.033 inch thick.
  - Fastening gypsum board to wood framing members. (Do not use nails)
  - Fastening steel framing to itself shall utilize pan head type screws as recommended by the manufacturer.
  - Fastening steel framing to steel deck or masonry substrate shall be accomplished by use of powder activated fasteners of size and spacing as recommended by metal framing manufacturer for the application.

PART 3 – EXECUTION

EXAMINATION

- Examine substrates to which gypsum board assemblies and panel products attach or abut for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

INSTALLATION OF METAL FRAMING AT MECHANICAL ROOM

- Install a partition from top of existing masonry wall to the underside of metal floor deck above.
- GWB shall be applied only on the mechanical room side of the partition.
- 3 5/8" studs shall be positioned vertically in the runners, spaced consistently at 16" c/c.
- Install additional framing as required to adequately frame around large openings.

APPLYING AND FINISHING GYPSUM BOARD, GENERAL

- Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
- Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

- Locate all edge or end joints over supports. Do not place tapered edges against cut edges or ends.
- Attach gypsum panels to framing provided at openings and cutouts.
- Isolate perimeter of gypsum board at abutments with windows or masonry.
- Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.
- Panel edges and around utility penetrations shall be only rough taped in the mechanical room. This is not a fire rated application, it is to resist the passage of smoke. Surface shall not be painted.

CLEANING AND PROTECTION

- Promptly remove any residual joint compound from adjacent surfaces.
- Maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION

SECTION 09510

ACOUSTICAL PANEL CEILING SYSTEMS

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections, apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Acoustical ceiling panels for patching areas damaged in process of running new HVAC service lines.
  - Infill ceiling panels and suspension system where 4 existing ceiling mounted HVAC units are to be removed.
  - Accessories and trim as needed for a complete installation.
- **CEILING PANEL ALLOWANCE:**
  - There are at least 2 types of ceiling panels installed at the school. One type in the 1987 portion and another in the rest of the school.
  - Many of the existing ceiling tiles are damaged and it will be impractical to identify ceiling panels that were damaged in performing the Work of this contract versus previously damaged panels. As a result it is proposed that you assume the replacement of 2,000 SF of ceiling tile. This is in addition to the known infill replacement area of tile and grid at the 4 existing HVAC units at the upper level classrooms (160 SF +/-).
  - If 2,000 SF proves to be more than necessary to address project impact then the school with input from the Architect shall direct where the balance of the allowed panels are to be installed.

SUBMITTALS

- Product Data for each type of acoustical ceiling panel and suspension system.

QUALITY ASSURANCE

- Installer Qualifications: Engage an experienced Installer who has completed ceiling system installations similar in material, design and extent to that indicated for this Project and with a record of successful in-service performance.

DELIVERY, STORAGE, AND HANDLING

- Deliver acoustical ceiling units to the Project site in original unopened packages and store in an enclosed and conditioned space.
- Protect ceiling units and other materials against damage.

PART 2 – PRODUCTS

- Suspension Systems that reasonably match existing from any of the following sources:
  - Armstrong Suspension Systems
  - USG
  - Chicago Metallic

SCHEDULE OF CEILINGS

- CEILING TYPE 1 (Standard based on what was used in the most recent school projects and would become the standard for going forward.)
  - Armstrong; Cortega square lay-in ceiling panels
  - #769_ 24 x 48 x 5/8"_ 6 tiles / 48 SF per box.
  - #770_ 24 x 24 x 5/8"_ 16 tiles / 64SF per box. (field verify if 24 x 24 panels are impacted)
  - 15/16" suspension system.
  - Color: white (WH)

PART 3 – EXECUTION

INSTALLATION GENERAL

- Install suspension system and panels in accordance with manufacturer's instructions and recommendations and in accordance with ASTM C636.
- Suspend main beams from overhead construction as recommended by the manufacturer.
- Cut and fit panels around any ceiling mounted devices such as sprinkler heads, smoke detectors, speakers, etc.
- DO NOT attach suspension cables or members to any other building system such as sprinkler pipes, ducts, conduits, piping, etc. Attach only to structural elements.

ADJUSTING AND CLEANING

- For panels that were replaced as part of this Work. Replace damaged, broken and soiled panels.

END OF SECTION

SECTION 09900

PAINTING

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes surface preparation and field painting of new and selected existing exposed interior and exterior items and surfaces.
- Painting of new Gypsum Wall Board surfaces at window wall infill.
- Painting of new wood trim and new or existing wood sills at window openings.
- Painting existing CMU abutting window openings; jambs, heads, and sills only.
- Painting of existing CMU wall where HVAC units are removed in the 4 upper level classrooms.
- Painting of new exterior siding and trim at window wall infill, new canopy, and soffits.
- The new smoke resistive wall extension in the mechanical room shall not be painted.
- Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
- The windows are factory finished.
- Paint colors are to be selected.
- Related Sections include the following:
  - Division 6 Section “Finish Carpentry” for primed interior architectural woodwork
  - Division 9 Section “Steel Framing and Gypsum Board Products” for surface preparation of gypsum board.
  - Divisions 15 and 16: Painting of mechanical and electrical work as specified in scope of mechanical and electrical work.

DEFINITIONS

- General: Standard coating terms defined in ASTM D 16 apply to this Section.
  - Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
  - Eggshell refers to low-sheen finish with a gloss range between 5 and 20 when measured at a 60-degree meter.
  - Satin refers to low-sheen finish with a gloss range between 15 and 35 when measured at a 60-degree meter.
  - Semi-gloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
  - Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

SUBMITTALS

- Source/Product Data: Identify product manufacturer to be used and submit product data for each paint system specified. Cross reference paint systems to those identified in this specification.

QUALITY ASSURANCE

- Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- Source Limitations: Obtain primers and undercoat materials for each coating system from the same manufacturer as the finish coats.

DELIVERY, STORAGE, AND HANDLING

- Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.
- Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F to protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

ENVIRONMENTAL CONDITIONS

- Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 degrees F.
- Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 degrees F.
- Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
    - Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

EXTRA MATERIALS

- Furnish usable, leftover paint at the end of the Work to the Owner. Package paint materials in sealed containers for storage and identify with labels describing contents, color and its applied location.

PART 2 – PRODUCTS

MANUFACTURERS

- Products: For purposes of this specification products and systems by the Sherwin-Williams Co. have been referenced in the painting schedules.
- Manufacturers: Subject to compliance with requirements, provide paint products and systems by one of the following:
    - Sherwin-Williams Co. (SW).
    - Benjamin Moore & Co. (Moore).
    - PPG Industries, Inc. (PPG).
    - Pratt & Lambert, Inc. (P & L).

PAINT MATERIALS, GENERAL

- Material Compatibility: Provide fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- Material Quality: Provide manufacturer's best-quality commercial paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- Colors: Match colors selected from color charts of other manufacturers if so requested by the Architect.

PART 3 – EXECUTION

EXAMINATION

- Examine substrates, areas, and conditions, with the Applicator present for compliance with paint application requirements.
  - ♦ Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
  - ♦ Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

PREPARATION

- General: Remove hardware, electrical plates, and similar items already installed that are not to be painted.
- Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified herein.
  - ♦ Provide barrier coats over incompatible primers.
  - ♦ Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
    - ▪ Painted Wood: Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.

APPLICATION

- General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
  - ♦ Surface treatments and finishes are indicated in the schedules.
  - ♦ Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
- Application Procedures: Apply paints and coatings by brush, roller, or other applicators according to manufacturer's written instructions.
  - ♦ Brushes: Use brushes best suited for the type of material applied.
  - ♦ Rollers: Use rollers as recommended by the manufacturer for the material and texture required.
- Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in occupied spaces.
- Prime Coats: Apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others.
- Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

CLEANING

- Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
  - ♦ After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

PROTECTION

- Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by the Architect.
  - ♦ At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

PAINT SCHEDULE

INTERIOR

- NOTE: For reference purposes all the products below are as manufactured by Sherwin Williams. Equal products by listed manufacturers shall be considered.
- New painted gypsum board walls and adjacent CMU surfaces: (one color)
  - ♦ First Coat: ProMar 200 Interior Latex Primer.
  - ♦ Two Coats: ProMar 200 Interior Latex Eg-Shel
- ♦ Painted hardwood trim: window stops and sills. (same color as walls)
  - ♦ First Coat: ProMar 200 Interior Latex Primer
  - ♦ Two Coats: ProMar 200 Interior Acrylic Latex Eg-Shel except use Semi-Gloss on sills.

EXTERIOR

- o The trim will be white to match windows and the siding will be another color to be selected.
- ♦ Siding and trim:
  - ▪ Factory primed products. Touch-up of cut edges to be performed progressively by siding installer.
  - ▪ Two Coats: Exterior Acrylic Latex Super Paint; satin sheen; A89 Series
    - ▪ 4 mils wet application; 1.44 mils dry.
    - ▪ Verify that the PH of factory primer is less than 10

END OF SECTION

SECTION 12500

WINDOW TREATMENT

PART 1 – GENERAL

RELATED DOCUMENTS

- Drawings and Division 1 Specification Sections shall apply to Work of this Section.
- Substitutions: Materials shall be as specified herein, except as set forth in SECTION 01600.

SUMMARY

- This Section includes the following:
  - Aluminum mini blinds at all new windows scheduled for the project.
  - Note that the existing window treatments in the Gym's high window openings shall be saved and reinstalled. These windows shall not receive mini-blinds.

PERFORMANCE REQUIREMENTS

- UV Performance: Provide window treatments capable of withstanding the effects of ultraviolet exposure without evidencing deformation, discoloration or deterioration of components including cordage.

SUBMITTALS

- Product Data and Schedule: Include product data and literature to illustrate features, accessories and options.
- Samples for Initial Selection: Manufacturer's color fan showing the range of standard aluminum horizontal blind colors.

QUALITY ASSURANCE

- Obtain all of the window treatments from a single manufacturer.

PROJECT CONDITIONS

- Coordinate dimensions to ensure that actual opening dimensions correspond to established unit dimensions. Field verify all openings prior to the fabrication of the mini-blinds.

PART 2 – PRODUCTS

MANUFACTURERS

- Mini blind: Subject to compliance with requirements, provide products by one of the following:
  - Bali S3000 SWF Contract was the reference product used.
  - Draper
  - Levelor.
  - Hunter Douglas.
  - Approved equal products by other manufacturers.

MATERIALS

- Mini Blinds:

- 1”x 0 .006 gauge aluminum slats
- Cordage shall be 100% polyester (not cotton) and resistant to the effects of UV break down.
- Provide integral head valance or another standard valance fabrication that will provide a finished appearance.
- Anti-static performance to repel dust.
- Inside mount near the face of the surrounding wall opening, do not surface mount, do not deeply mount in opening.

PART 3 – EXECUTION

INSTALLATION

- Field verify all opening sizes.
- Each window shall have its own mini-blind. For instance; if a masonry window opening has 2 or 3 infill windows across its width; each of those windwos shall have its own mini-blind.
- Locate and place mini-blinds in alignment with the face of the wall’s opening.
- Use concealed anchorages.
- Mount inside the window opening by attaching into the masonry or wood framing at the window head.

ADJUSTING, CLEANING, AND PROTECTING

- Protect window treatments from damage during construction.
- Repair or replace units that are damaged.

END OF SECTION