



Anchorage School District

ALPENGLOW ELEMENTARY SCHOOL ROOF REPLACEMENT AND SEISMIC UPGRADES

**ITB 2026-808
ASD PROJECT No. 112006**

DATE ISSUED: February 4, 2026

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INVITATION TO BID (ITB) NUMBER: 2026 - 808
Alpenglow Elementary School Roof Replacement and Seismic Upgrades

Sealed bids will be received in accordance with the time schedule shown below by the Anchorage School District, Purchasing Department, located at 4919 Van Buren Street Anchorage, Alaska 99517 for Alpenglow Elementary School Roof Replacement and Seismic Upgrades per the attached Instructions to Bidders, General Conditions, Technical Specifications, Drawings and Bid Form.

ESTIMATED CONSTRUCTION COST: Between \$1,000,000 - \$5,000,000

On-Site Visit:	February 10, 2026 at 3:00 p.m. Local Time
Pre-Bid Conference:	February 11, 2026 at 10:30 a.m. Local Time
Bid Opening:	February 26, 2026 at 2:00 p.m. Local Time

At the above indicated time, the bids will be opened publicly and read. Bids received by the Purchasing Department after the time fixed for opening of the bids will not be considered. Time of receipt will be as determined by the time stamp at the Purchasing Department.

DOCUMENTS:

Prospective bidders may obtain copies of bidding documents at the Anchorage School District website <http://www.asdk12.org/depts/purchasing/PurchasingBids.aspx> Only electronic versions of this ITB are issued.

A copy of the current plan holder's list can be viewed at:
http://apps.asdk12.org/depts/purchasing/meeting/Plan_Holders/2026/808.xlsx

NOTICE TO BIDDERS:

A bid bond in the amount of five (5%) percent of the total amount of the base bid will be required (**cash, personal or business checks are unacceptable**). The successful Contractor shall be required to furnish 100 percent performance and payment bonds.

The Anchorage School District reserves the right to reject any and all bids, and to waive any informalities or irregularities in bidding procedures.

STUDENT COMMUNITY WORKFORCE AGREEMENT

This project is subject to the Student Community Workforce Agreement per ASD Board Policy 3311.2. The awarded Contractor must review, understand and agree to Attachment A, Community Workforce Agreement, which will be incorporated into the contract.

ON-SITE VISIT AND PRE-BID CONFERENCE:

An On-Site Visit will be held on February 10, 2026 at 3:00 p.m. Local Time at Alpenglow Elementary School, 19201 Driftwood Bay Drive, Eagle River, Alaska 99577. Please meet at the Front Office.

A Pre-Bid Conference will be held February 11, 2026 at 10:30 a.m. Local Time at Anchorage School District, Purchasing Department, located at 4919 Van Buren Street Anchorage, Alaska 99517. Prospective Bidders who wish to participate by teleconference may participate by calling (907) 742-6750. The line will be available approximately 5 minutes prior the conference start time.

All Bidders are encouraged to attend the On-site Visit and Pre-Bid Conference. Major sub-bidders are also encouraged to attend.

The Anchorage School District is committed to providing reasonable accommodations, according to applicable state and federal laws, to all individuals with a qualifying disability. If you require a reasonable accommodation in order to participate in this or any other district process, please contact the Anchorage School District's Compliance/Equal Employment Opportunity Office at (907) 742-4132.

END OF SECTION

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL INFORMATION

- 1.01 Refer to the Invitation to Bid for information relating to time, date and place for receipt of bids and other pertinent bidding information.
- 1.02 Anchorage School Board Policy 3515.5 prohibits a contractor whose employees or agents may have direct or incidental contact with Anchorage School District (the District) students from sending any employee or agent to district property who has been convicted of a sex offense under federal law or the law of any state and who is required to register as a sex offender under Alaska law or by court order, or who has been convicted of child kidnapping under federal law or the law of any state and who is required under Alaska law or court order to register on the Alaska Department of Public Safety Sex Offender/Child Kidnapper Central Registry. Board Policy 3515.5 requires contractors to certify in writing the contractor's knowledge of and compliance with Board Policy 3515.5. **Prior to executing a contract** for this project, the selected Contractor shall verify that no employee or agent who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state. In addition, the contractor shall certify that, to its knowledge, no employee or agent is a convicted sex offender or child kidnapper. The required forms of certification are included in the bid documents.
- 1.03 LICENSE REQUIREMENTS
- A. The bidder shall include on the bid Form his current Business License number and expiration date from the State of Alaska authorizing him to engage in business to operate as a Business, Specialty or General Contractor, as well as his Federal Tax Identification number.
- B. The bidder shall provide a copy of his current State of Alaska Business License and Specialty or General Contractor license when requested in writing by the Purchasing Department.
- 1.04 BIDS
- A. The bidder shall review all of the proposed contract documents to ascertain all of the requirements of the work.
- 1.05 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE WORK
- A. The bidder shall examine carefully the site of the proposed work, the proposal, plans, specifications and contract forms before submitting a proposal. The submission of a bid shall be an admission that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirement and accuracy of the plans, specifications, special provisions and terms of the contract.
- B. All documents furnished to any person, under any condition, remain the property of the Anchorage School District and shall be returned immediately upon request.
- C. Documents may be obtained upon the conditions set forth in the Invitation to Bid.
- 1.06 METHOD FOR CLARIFICATION
- A. Any bidder in doubt as to the meaning of any part of the plans, specifications or other documents may submit a written request for an interpretation. The bidder submitting the

request will be responsible for its prompt delivery not less than seven (7) working days prior to the date set for opening of bids. Questions can be delivered as follows:

1. Fax: (907) 243-6293
2. Email: purchasing@asdk12.org
3. Mail: Purchasing Department
4919 Van Buren Street
Anchorage, Alaska 99517
4. Hours: 7:30 a.m. – 4:00 p.m.

- B. A written request for an interpretation, which in the opinion of the Purchasing Department requires a reply, will be answered by issuing an addendum to all plan holders prior to the bid opening. The Owner will not be responsible for any other explanation or interpretation of the plans, specifications or other documents made or given prior to the bid opening.

1.07 PREPARATION OF BIDS

- A. Preparation and Submission:

Bids must be submitted on the forms furnished or copies thereof, and must be manually signed. In order to secure consideration, the bid must be submitted and sealed in an envelope on which contract identification is plainly marked on the outside. The bid form is included in the bidding documents. The envelope shall be addressed as indicated in the Invitation to Bid.

- B. Form:

The bid may provide for a quotation of a price, or prices, for one or more items which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction, or a combination thereof. Where required on the bid form, bidders must quote on all items and they are warned that failure to do so shall disqualify the bid.

If erasures or other changes appear on the forms, each such erasure or change must be initialed by the person signing the bid.

- C. Alternate Bids and Qualified Bids:

Bids may be rejected if they show any omissions, alteration of the forms, additions not called for, conditional or alternate bids not called for or irregularities of any kind.

1.08 BID GUARANTEE

- A. Each bid shall be accompanied by a bid bond with good and sufficient surety or sureties acceptable to the Owner. The Anchorage School District will require five percent (5%) of the total amount of the base bid as a guarantee (**cash, personal, or business checks are not acceptable**). Bid guarantees for the three (3) low bidders will be held until the contract is executed.
- B. All other bid guarantees will be returned within seven (7) days of the bid opening. Power of Attorney for the official signing of the bond for the surety company must be submitted with the bond.

1.09 ALTERNATES

- A. The bidder shall include in the spaces provided on the "Bid Form" a bid for each alternate, if applicable.
- B. The Owner may accept alternates in any order or number and include them in the contract award price.

1.10 UNIT PRICES

- A. The bidder shall include in the spaces provided on the "Bid Form" a bid for each unit price, if applicable.
- B. The Owner may accept any or all of these unit prices and include them in the contract award price.
- C. In the case of discrepancy in the extended price calculation(s), the unit price(s) will prevail.

1.11 BIDDER QUALIFICATIONS (TO BE INCLUDED IF THERE IS NO 2-STEP QUALIFICATION PROCESS)

- A. Before the bid is considered for award, the Owner reserves the right to request the bidder to complete within seventy-two (72) hours a bidder qualification form and/or a current financial statement prepared by a Certified Public Accountant. Bidder qualifications to be listed upon the qualification form will include, as a minimum, a listing of bidder's previous contracts of a nature similar to that being bid upon; a listing of bidder's staff, to include managerial, technical and laboring positions; summary of bidder's plan and equipment available for use in the execution of the contract; and a listing of the projects to which the bidder is obligated in the near future. The Owner reserves the right to reject the bid of any bidder who fails to furnish promptly and properly all the information required in this paragraph.
- B. A bidder will be deemed to be unqualified to perform the contract if, after review and verification of the representations included on the qualification form submitted by the bidder, the following conditions appear:
 - 1. Bidder does not have sufficient prior experience (or an acceptable substitute thereof, as described below) with projects of a similar nature in technical, managerial and financial requirements to that in the present contract being bid.
 - a. Experience does not necessarily mean that the bidder is an established Contractor in the exact technical area for which the bid is submitted. In addition to such established contractors, newly established contractors will be considered qualified if they have shown on the bid qualification sheet form that they are staffed with sufficient technical, managerial and financial personnel with prior experience in the nature of construction for which the bids are invited, that bidder may adequately foresee and appreciate problems of such construction.
 - 2. Bidder does not have sufficient capability to undertake the obligations of the contract. A determination in this respect will be made when the Owner, upon review of the probable cash flow needs of the Contractor for this particular contract (to include payroll, cost of material and supplies, equipment rental costs and any other direct or incidental costs of the contract), determines that the Contractor does not have sufficient financial resources to enable him to satisfy his financial obligations under the contract. The Owner will consider all other pertinent financial

data required by this clause and submitted by the Contractor. A determination that the bidder is unqualified will not be made under this paragraph unless the Owner has determined that the bidder cannot meet his financial obligations under the contract after having considered all sources of income available to the bidder.

3. The bidder does not have sufficient staff, equipment or plant available to perform the contract. The Owner's determination in this matter will be based upon that represented by the bidder in his completion of the Bidder Qualification documents discussed above.
4. The bidder has a consistent history of unsatisfactory performance of contracts of this or similar nature, regardless of whether such contracts existed between the Owner and the Contractor, or other parties and the Contractor.
 - a. A determination of this nature will not be made unless the Owner, after review and verification of the contractor's previous work experience, determines that the contractor's consistent, unsatisfactory performance has resulted from the contractor's failure rather than a failure to perform by the other party. The Owner will give the Contractor an opportunity to explain such nonperformance(s) before any final determination is reached. Contract disputes which are pending resolution before any duly authorized judicial or administrative body will not be considered in reaching this determination.
 - b. A determination of a "consistent failure to perform" will not be made unless the Owner is satisfied after review of the bidder's prior experience that the Contractor has repeatedly failed to satisfy his obligations under past contracts. For purposes of this clause, "consistent" will not be construed to mean in every contract, nor will it be construed to include "isolated instances" of failure to perform.
 - c. In reaching any determination of this nature, the Owner may consider statements of other parties to the prior unperformed contracts, as well as the representations of the Contractor on his "Bidder Qualification" form. However, in each instance, the Owner will advise the Contractor of such other statements considered before a determination that the bidder is not qualified, as made by the Owner.
- C. The bidder's representations concerning his qualifications will be construed as a covenant under the contract. Should it appear that the bidder has made a material misrepresentation on his "Bidder Qualification" form, the Owner shall have the right to terminate the contract for the Contractor's breach, and the Owner may then pursue such remedies as exist elsewhere under this contract, or as otherwise are provided at law or equity.
- D. A determination that a bidder is unqualified will be made by the Owner. Such determination will be made in writing and include a thorough discussion of why the bidder is deemed unqualified. A letter will be sent to the bidder deemed unqualified, stating the reasons for such determination, and the bidder's right to request a review of this determination by appeal to the Anchorage School District Board.
- E. Any bidder who is deemed to be unqualified may, as provided under existing Anchorage School District policy, appeal such determination to the Anchorage School District Board prior to contract award to another bidder.

1.12 RECEIPT AND OPENING OF BIDS

A. Time of Opening:

Bids shall be submitted prior to the time specified in the Invitation to Bid, and the exact date and time of receipt of bids will be recorded. Late bids will not be considered, but will be held unopened until the time of award and then returned to the bidder, unless other disposition is requested or agreed to by the bidder. Time of bid receipt will be determined by the time stamp at the Purchasing Department, 4919 Van Buren Street, Anchorage, Alaska 99517.

B. FAX/Telegraph/Telephonic/E-Mail Bids:

FAX/telegraphic/telephonic/e-mail bids will not be considered. Modification by FAX or telegraph of bids already submitted will be considered if received prior to the time fixed in the Invitation to Bid. FAX/telegraphic modifications shall not reveal the amount of the original or revised bid.

C. Officer's Responsibility:

No responsibility will attach to any officer or agent of the Owner for the premature opening of, or the failure to open a bid not properly addressed and identified.

1.13 WITHDRAWAL OF BIDS

- A. Bids may be withdrawn on written request received from the bidders prior to the time specified for opening.
- B. No bid shall be withdrawn for a period of ninety (90) days subsequent to the bid opening without the written consent of the Owner.

1.14 BIDDERS INTERESTED IN MORE THAN ONE BID

- A. If more than one bid is offered by any party, by or in the name of his clerk, partner, or other person, all such bids will be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or from submitting a bid directly for the work.

1.15 BIDDERS PRESENT

- A. At the time and place specified for the opening of bids, contents of the bids will be made public for the information of bidders and other parties.

1.16 REJECTION OF BIDS

- A. The Owner reserves the right to reject any or all bids, and to waive any informalities or irregularities in bidding or award of the contract.

1.17 AWARD OF CONTRACT

A. Acceptance of Bid:

Following the opening and evaluation of bids, the Owner will determine the apparent low responsive bidder and, subject to its right under Paragraph 1.16 to reject all bids, decide whether to accept the apparent low responsive bid. The Owner's acceptance of the apparent low responsive bid will be through a written notice from a duly authorized

representative of the Owner, and no other act of the Owner or its representative will constitute an acceptance of a bid. The notice shall be titled "Notice of Intent to Award Contract," and shall set forth pre-award procedures and requirements, if any, including procedures for approval and award of contract by the School Board.

B. Basis of Award

1. It is the Owner's intention to award a contract to the lowest responsive and responsible bidder, including alternates, base bid, and quantified unit prices accepted by the Owner at the time of award, if applicable.
2. Unit prices which are not quantified will not be included in the determination of the award.
3. The Owner reserves the right to award the alternates in any combination with the base bid and include them in the total award.
4. The District reserves the right to request the lowest bidder(s) whose bids are determined to be reasonably susceptible to award to review their previous bids with consideration of any additions, clarifications or modifications, submit revised bids for Best and Final Offers (bids). If Best and Final Offers are requested, selected offerors must submit revised bids on the forms provided by the District to be considered for evaluation and award. Bidders who do not submit a Best and Final Offers (revised bids), when requested, will not be considered for evaluation and award and their bids will be rejected and considered non-responsive.
 - a. For purposes of this ITB, bids that are "reasonably susceptible to award" means the three (3) lowest responsive and responsible bidders, unless, in the sole discretion of the District's Purchasing Senior Director, one or more of the three lowest responsive and responsible bidder(s) was not within the competitive range and to remain under consideration for award when evaluated with other bids or the District received one or more additional bids that are within the competitive range of the three lowest responsive and responsible bids such that the additional bid(s) may remain under consideration when evaluated with the other bids. This is a strict mathematical evaluation and may not be challenged on that basis except in the case of obvious arithmetic errors.

C. Notification of Award to Bidders:

Following opening of bids and determination of the apparent low responsive bidder, the Administration will make public in the Purchasing Contracting Office each Notice of Intent to Award ten (10) calendar days prior to the scheduled award by the Board, except for purchases under \$100,000 which is three (3) business days. Bidders may, upon request to the Purchasing Office and/or Purchasing Contracting Office, review the bid tabulation summary prior to the scheduled Board award date.

D. Amount of Contract

The amount of the contract shall be understood to be the lump sum as given in the bid form. Where prices are given on alternative items, only the amounts of the alternates accepted by the Owner will be included in the total.

E. Execution of Contract:

By the Contractor: The bidder whose bid is accepted shall execute the contract and furnish the required bonding and insurance within five (5) days after presentation of the contract for signature. The contract shall be deemed to be

executed by the successful bidder when two (2) originals of the contract, signed by an authorized officer of the corporation or company, and with each separately signed the bonds and insurances required herein, are received by the Owner. Failure or neglect to execute the contract, within the time specified or such extended period, if any, that the Owner may, in its sole discretion, authorize, shall constitute a breach of the agreement affecting the acceptance of the bid. The damages to the Owner for such a breach shall include loss from interference with the general Capital Improvements Program of the Owner, and other items whose accurate amount would be difficult or impossible to compute.

The amount of the bid guarantee of the successful bidder who fails or neglects to execute the contract after proper notification of the acceptance of the bid shall be retained by the Owner as liquidated damages for such breach.

By the Owner: Upon receipt of the above-referenced two (2) Contracts executed by the Contractor, including all required bonds and insurance certificates, the properly authorized Owner representatives will execute the documents within ten (10) days. The contract shall be deemed to be completely executed when two (2) copies thereof, accompanied by the required bond, liability and other necessary insurance and signed by the Contractor, are executed by the Owner. All awards shall comply with the Anchorage School District Purchasing and Contracting Policy 3311. Awards of \$500,000 or more shall be presented to the School Board for their approval.

1.18 PERFORMANCE BOND AND PAYMENT BOND

- A. The successful bidder will furnish a Performance Bond and a Payment Bond in accordance with Section 00700, Paragraph 7.5.

1.19 INSURANCE

- A. The successful bidder will furnish complete Certificates of Insurance, as required by the General Conditions and Supplementary Conditions, in a form acceptable to the Owner.

1.20 NOTICE TO PROCEED

- A. The Owner will issue a Notice to Proceed with the work within ten (10) days following the Owner's execution of the contract. The date of commencement of the work shall be the date established in the Notice to Proceed. The Owner will not be responsible for any costs incurred by the Contractor prior to the Notice to Proceed.

1.21 AGGRIEVED BIDDERS

- A. Protest:
 - 1. An interested party may protest a solicitation or a proposed award of a contract.
 - a. A protest as to the specifications and/or terms and conditions of a solicitation must be received by the Purchasing Senior Director at least five (5) calendar days prior to the due date of the bid or proposal; failure to protest as provided herein constitutes a waiver of any objection to the solicitation.

- b. For construction projects and architectural/engineering design services, the protest of a proposed award of a contract must be received by the Purchasing Senior Director within ten (10) calendar days after issuance of the notice of intent to award, except that for purchases under \$100,000, the protest must be received within three (3) business days.
 - c. For goods or services, the protest of a proposed award of a contract must be received by the Purchasing Senior Director within seven (7) calendar days after issuance of the notice of intent to award, except that for purchases under \$100,000, the protest must be received within three (3) business days.
 - d. The protest must include the name of the person submitting the protest, the name of the bidder/proposer represented by that person, the specific action or bid/request for proposal contract award which is being protested, a detailed explanation of the reasons for the protest, and the relief requested.
 - e. The aggrieved person must serve all other interested parties with its protest.
- 2. The Purchasing Senior Director shall stay the intended award of a contract unless the Purchasing Senior Director determines the award of the contract without further delay is necessary to protect the District's best interest.
 - 3. The Purchasing Senior Director may, in his/her sole discretion, hold a hearing.
 - 4. The rights and remedies granted by this section are not available for informal small purchases with an actual or potential value of less than twenty-five thousand dollars (\$25,000).
 - 5. Failure to protest as provided herein constitutes a waiver of any objection to the solicitation and contract award.

B. Appeal:

- 1. A decision by the Purchasing Senior Director may be appealed to the Anchorage School Board.
- 2. Any appeal shall be filed with the Superintendent within five (5) days after the decision is received by the protester and must include the name of the person submitting the appeal, the name of the bidder/proposer represented by that person, and a detailed explanation of the basis for the appeal.
- 3. The aggrieved bidder/proposer must serve all other interested parties with its appeal.
- 4. The Superintendent may obtain an independent review of the appeal issues if the Superintendent determines such review will assist consideration of the appeal.
- 5. The independent review shall be conducted by a not directly involved District employee or an experienced but disinterested third party from outside the District.
- 6. Failure to appeal to the Anchorage School Board as provided herein constitutes a waiver of any objections to the solicitation and the contract award.

C. Consideration of Appeal:

1. The decision being appealed and the findings from the independent review, if any, will be reported to the Board.
2. Upon consideration of the appeal and allowing interested parties an opportunity to address the issues on appeal, the Board may:
 - a. Award the contract as recommended, if applicable, indicating its reasons for rejecting the appeal;
 - b. Grant the appeal, indicating its reasons for granting the appeal, and determine an appropriate remedy consistent with AR3311.1(c).1 of Board Policy. The Board may award the contract at that meeting to some other bidder/proposer if it finds that a delay in making the award would adversely affect the District;
 - c. Stay any award of the contract to permit further consideration of the appeal, with action to be scheduled as soon as practicable, but in no event more than twenty (20) days after the stay as initiated;
 - d. Reject all bids/proposals.
 - e. Take such other action as appears appropriate and in the best interest of the District under the circumstances.

D. Frivolous Protests:

1. Signature on Protest Constitutes Certificate
The signature of an attorney or party on a request for review, protest, motion, or other document constitutes a certificate by the signer that the signer has read the document, to the best of his/her knowledge, information, and belief formed after reasonable inquiry it is well grounded in fact and is warranted by existing law or a good faith argument for the extension, modification, or reversal of existing law, and that it is not interposed for an improper purpose, such as to harass, limit competition, or to cause unnecessary delay or needless increase in the cost of the procurement or of the litigation.
2. Sanctions for Violation
If a request for review, protest, pleading, motion, or other document is filed with the Purchasing Senior Director is signed in violation of Board Policy AR3311.1(c).1, the Board, may impose upon the person who signed it, a represented party, or both, an appropriate sanction, that may include an order to pay to the other party or parties the amount of the reasonable expenses incurred because of the filing of the protest, pleading, motion, or other paper, including a reasonable attorney's fee.

1.22 GUARANTEE SECTION

- A. Whether or not there appears here or elsewhere herein specific reference to guarantees of all items of material, equipment or workmanship, they nevertheless shall be so guaranteed against defects for which the Contractor is responsible that may develop or

become evident within a period of one (1) year from and after final acceptance of the work by the Owner. This guarantee shall be understood to imply prompt attention to any remedy of such defects as those mentioned above if and as they occur after the Contractor shall have written notice of their existence. If the defect, in the opinion of the Owner, is of such nature as to demand immediate repair, the Owner shall have the right to make them and the cost thereof shall be borne by the Contractor.

1.23 SUBCONTRACTORS

- A. All subcontractors proposed for the work must be acceptable to the Owner.
- B. The Owner reserves the right to request the proposed subcontractors to complete qualification forms and/or current financial statements prepared by a Certified Public Accountant.

1.24 MINIMUM WAGE RATES

- A. Labor required for the construction of this project is subject to the minimum wage rates as provided in the General Requirements.

1.25 NON DISCRIMINATION

- A. No bidder/offeror on any District contract may illegally discriminate on the basis of sex, race, color, religion, gender identity, sexual orientation, national origin, ancestry, age, marital status, changes in marital status, pregnancy, parenthood, physical or mental disability, Vietnam era veteran status, genetic information, or good faith reporting to the board on a matter of public concern in employment, provision of services, or otherwise.
- B. Any bidder/offeror submitting a bid or proposal of one hundred thousand (\$100,000) or more must certify that if awarded a contract on the basis of that bid or proposal, he/she as the contractor will not illegally discriminate against any member or applicant for employment because of sex, race, color, religion, gender identity, sexual orientation, national origin, ancestry, age, marital status, changes in marital status, pregnancy, parenthood, physical or mental disability, Vietnam era veteran status, genetic information, or good faith reporting to the board on a matter of public concern in employment, provision of services, or otherwise.

1. Notice of Compliance

- a. All successful bidders/offerors shall insure such non-discrimination.
- b. All successful bidders/offerors must agree to post in conspicuous places, available to employees and applicants for employment, notice setting forth the provisions of this non-discrimination section and this section shall be deemed to be a part of every contract entered into by the District under these policies.

2. Minority Business Enterprises

- a. The District requires adherence to the Anchorage Municipal Code, relating to Minority Business Enterprises and will monitor and implement these policies through the District's Equal Employment Opportunity Director (EEO).

- b. It is the policy of the District that socially and economically disadvantaged minority businesses located within the Municipality of Anchorage be afforded an equitable opportunity to participate in District contracts.
- c. Any appeal from a decision of the Equal Employment Opportunity Director shall be to the Superintendent and, if not satisfied, to the Board.

1.26 ASBESTOS FREE MATERIALS

- A. The bidder, by submitting a bid on this project, thereby certifies and guarantees to the Anchorage School District that any products or materials sold, used or installed under the terms of this contract will not contain any asbestos. In the event the product sold does not conform to the above standards, the buyer may return the product for correction or replacement at the seller's option and at the seller's expense. Services performed by the seller which do not conform to the above standards must be corrected by the seller at the seller's expense or make the appropriate correction within a reasonable time.

1.27 CONFLICT OF INTEREST

- A. The Contractor agrees to certify that Anchorage School District employees, School Board members, or a member of their household are not in conflict of interest with the contract and Board Policy as follows (AR3311.1(e).1 Disclosure and Waiver of Conflict of Interest):
 - 1. No Board member, employee, or a member of their household, shall acquire, directly or indirectly, an economic interest in a District or Municipal contract, or engage in business with the District or the municipality, unless the contract is competitively solicited and other requirements of Section 3311 of Board Policy and section 1.15 of the Anchorage Municipal Code are met.
 - 2. The following acts and circumstances shall not be deemed to be in conflict with the performance of official duties if, at the earliest opportunity after having acquired such knowledge, the Board member or employee files a disclosure pursuant to AR3311.1(e).1 or requests and obtains a waiver pursuant to Board Policy AR3311.1(e).2:
 - a. Such person owns a sole proprietorship, or is a partner in a partnership, or is an officer, director, major shareholder (five percent (5%) or more of the outstanding shares) or has management control in a corporation that submits a bid, proposal or quotation to the District or attempts to enter or enters into a contract with the District;
 - b. Such person has any significant (five percent (5%) or more) financial interest in any sale, lease or rental to the District of any service or property and such person has knowledge that the District intends to purchase, lease or rent the property or service;
 - c. Such person wishes to sell or receive royalties on books or materials sold to the District for use in the school system for which the employee is the author;
 - d. Such person is an employee who has been providing private services to a child who transfers to a new school or class or advances to a higher grade and the child becomes a student in the class being taught/aided by his/her provider.

- B. Board Members, District employees, and their household and/or immediate family members are required to comply with Board Policies and the Municipal Ethics Code by disclosing conflicts of interest.

1. When a board member, employee, or their household and/or immediate family member intends to do business with the District, the appropriate District and Municipal forms must be filed by the Board Member or District employee with the Municipal Clerk's Office and the Purchasing Department.

Note: *Notice of Intent To Respond To Public Solicitation* shall be filed with the Municipal Clerk's office in advance to allow a minimum of **7 calendar days to elapse between electronic publication by the clerk and the final date** for submitting a response to the solicitation. The form may be obtained from the Municipality of Anchorage website, www.muni.org.

District *Disclosure* and *Request for Waiver* forms and instructions may be obtained from the Purchasing Bid Information link under Quick Links on the ASD website, www.asdk12.org.

2. The responsibility for complete and timely filing rests solely with the Board Member or District employee.

- C. Copies of all conflict of interest and ethics code documents should be submitted with your quote.

1.28 CONTRACT INDUCEMENTS

- A. No payment, gratuity or offer of employment shall be made in connection with any contract, by or on behalf of the subcontractor to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

1.29 GOVERNANCE

- A. This solicitation is an Invitation to Bid ("ITB") governed by applicable Anchorage School Board Policies, including Section 3311 of such Policies. Anchorage School Board Policies are available at <https://www.boardpolicyonline.com/?b=anchorage>

Offerors should read this ITB carefully and review all instructions contained herein. Incomplete or incorrect bids may be rejected as not conforming to the essential requirements of the ITB. Bids submitted on other than the prescribed forms contained in this ITB will be rejected. Bidders may copy the forms contained in the ITB for use in their bids, but substitute forms or formats are unacceptable. Electronic copies of the forms which bidders must submit as part of any bid, if any—if not provided with this ITB—may be obtained by contacting the Anchorage School District Purchasing Department. Forms shall not be altered except to supply requested bidder information.

1.30 APPRENTICESHIP UTILIZATION COMPLIANCE

- A. In order to be deemed a responsive bid/offer, bidders/offerors shall provide a signed notarized Apprenticeship Utilization Affidavit ("AUA") with their bid. ASD reserves the right to request the signed notarized AUA to be submitted within three (3) working days after bid submission. By doing this, bidders/offerors are confirming that they understand and agree

that in all trades/crafts categories in which there is an Alaskan Federally Registered Apprenticeship Program, they will ensure that 15% of the aggregate hours in those trades' categories will be worked by apprentices, as mandated by Anchorage School Board Policy 3311.1.2. This applies to both prime contractor labor hours and subcontractor labor hours. By signing the AUA, bidders/offerors are confirming their understanding and agreement that ASD will request documentation to factually demonstrate compliance with the 15% Apprenticeship Utilization Policy ("AUP"), and conduct audits. Audits for projects will be conducted every 30 days. In addition to providing documentation to ASD to confirm that 15% of the labor hours worked in trades/crafts categories that have Alaskan Federally Registered Apprenticeship Program has been done by certified apprentices enrolled in such programs, the prime contractor will provide documentation to confirm that the apprentices listed on the documentation submitted are currently in good standing in their Alaskan Federally Registered Apprenticeship Program. Attached to the solicitation will be the current version of the Federally Registered Alaskan Apprenticeship Programs, which was provided to ASD by the Federal Department of Labor.

B. Forms used to demonstrate compliance during the contract administration period are found in Section 00630 Construction Forms.

1. List of Federally Registered Alaskan Apprenticeship Programs

- a. This list from the Federal Department of Labor will provide contractors with a list of Alaskan apprenticeship programs and crafts/trades categories that are subject to ASD's AUP.

2. Apprenticeship Utilization Form

- a. The Prime Contractor will list the crafts/trades categories required to complete the project that have Alaskan Federally Registered Apprenticeship Programs. This list will include all crafts/trades categories for both the prime and subcontractors.

3. Apprenticeship Utilization Program Calculation Form

- a. This form will be submitted by the prime contractors to demonstrate compliance with the apprenticeship utilization percentage for both prime and subcontractors on the project.
- b. Audits will be performed when the hours submitted by the prime's and/or subcontractor's certified payroll exceed 500 hours. Audits will continue as per the schedule unless the prime's and the subcontractor's certified payroll does not meet the minimum threshold of 500 hours. Prime and Subcontractors will be required to submit certified payrolls during periods where very little work is being performed. This will continue until the minimum threshold of 500 hours is met and warrants an audit. Audits will be conducted from Site Available to Contractors through Final Completion on all projects awarded by the District in excess of \$100,000 at the time of bid.

4. Penalty Table

- a. This table lists the penalties for non-compliance with the AUP.

- C. Prime Contractors are required to meet with Purchasing to discuss forms and processes of Apprentice Utilization Program prior to start of work.

END OF SECTION

PROJECT SCHEDULE MILESTONE DATES

Division 0
Section 00200

PROJECT SCHEDULE MILESTONE DATES

On-Site Visit	February 10, 2026
Pre-Bid Conference.....	February 11, 2026
Bid Opening	February 26, 2026
Board Meeting (anticipated).....	March 17, 2026, Non-Action, April 6, 2026, Action
Notice to Proceed (anticipated).....	April 24, 2026
Site Available to Contractor.....	May 22, 2026
Substantial Completion – Building	August 5, 2026
Substantial Completion - Site.....	August 5, 2026
Final Completion	September 2, 2026

Dates of Interest:

Presidents Day Holiday	February 16, 2026
Spring Break Week	March 9 – 13, 2026
School Ends for Students.....	May 20, 2026
Teachers Last Day	May 21, 2026
Memorial Day Holiday	May 25, 2026
Juneteenth Holiday	June 19, 2026
Independence Day Holiday	July 4, 2026
Teachers First Day.....	August 14, 2026
Students First Day.....	August 19, 2026
Labor Day Holiday.....	September 7, 2026
Parent Teacher Conferences	October 28 – 29, 2026
Thanksgiving Holiday	November 26 – 27, 2026
Winter Vacation.....	December 21, 2026 – January 1, 2027

The Contractor shall be required to plan, schedule, execute and complete all work under the contract in accordance with the Project Schedule Milestone Dates set forth under this Section 00200. The above listed Project Schedule Milestone Dates for Substantial Completion and Final Completion may not be altered by the Contractor, either to schedule or to achieve early completion of the project, without the express written consent of the Owner.

The bidder's attention is drawn to the requirements of Division 1, Section 01311 of the General Requirements entitled Project Schedule and to the Phasing Drawings for associated phasing information.

END OF SECTION

Project Title: Alpenglow ES Roof Replacement and Seismic Upgrades Invitation to Bid Number: 2026 – 808

TO: Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

FROM: _____ BIDDER

ADDRESS

CITY/STATE

PHONE/FAX

EMAIL

Operating as (strike out conditions that do not apply) an individual, a company, a corporation, organized and existing under the laws of the State of _____, or a proprietorship, a partnership, or joint venture consisting of _____.

1. BASE BID:

Having become completely familiar with the local conditions affecting the cost of the work at the place where work is to be executed, and having carefully examined the site and building conditions as they currently exist, and having carefully examined the proposed contract documents, together with any addenda to such contract documents as listed hereinafter, the undersigned hereby proposes and agrees to provide all labor, materials, equipment, transportation, supervision and other facilities as necessary and/or required to execute all of the work described by the aforesaid contract documents for the lump sum consideration of:

\$ _____ (In Numbers)

Said amount being hereinafter referred to as the base bid, base bid proposed, or lump sum.

2. ALTERNATES:

The undersigned proposes to perform alternates for the stated resulting additions or deductions from the base bid. Additions and deductions shall include any modifications of work or additional work that the undersigned may deem to be required to perform by reason of the acceptance or rejection of any alternate, including allowances for overhead and profit, and in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof. The Owner reserves the right to award the alternates in any order or number and include them in the contract award price.

A. None

3. UNIT PRICES:

The following unit prices will be used at the discretion of the Owner for the addition or deletion of work not reasonably implied or not included in the Contract Documents. Unit prices must include all labor, material, overhead, and profit for each unit of work. All unit price work will be processed by Request for Proposal followed by a Change Order to the Contract when quantities are verified and agreed upon.

A. None

4. ALLOWANCES / ASSIGNMENTS:

A. None

5. ADDENDA ACKNOWLEDGMENT:

The undersigned acknowledges receipt of the following addenda: (List by number and date appearing on addenda.)

6. TIME OF COMPLETION:

The undersigned agrees to complete all work under this contract in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof.

7. BID SECURITY:

A bid bond in the amount of five percent (5%) of the total amount of the base bid is attached in the sum of:

\$ _____ (In Numbers)

which is to become the property of the Owner in the event the Performance Bond and Payment Bond are not executed within the time set forth in paragraph 10 of this section, as liquidated damages for the delay and additional work caused the Owner.

8. The undersigned agrees that upon receipt of the notice of acceptance of his bid, he will execute the formal contract, and will deliver all proper bonds and proof of insurance coverage as may be required by the contract documents.

9. The undersigned agrees to accept the Assignment of the Bid Allowance as set forth in Section 01031, Bid Allowances.

10. The undersigned further agrees to execute the formal contract within ten (10) days from the date of the notice of acceptance of this bid, and in case the undersigned fails or neglects to appear within the specified time to execute the contract, the undersigned will be considered as having abandoned the contract, and the bid bond accompanying this bid will be forfeited to the Owner by

reason of such failure on the part of the undersigned.

11. The undersigned further agrees to commence with the work under the contract in accordance with the date of commencement of the Work established in the Notice to Proceed.
12. The undersigned further agrees that the bid security may be retained by the Owner and that said bid guarantee shall remain with the Owner until the contract has been executed by the Owner.
13. The undersigned has checked all of the above figures, and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in preparing this bid.
14. In submitting this bid, it is understood that the right is reserved by the Owner to reject any or all bids and waive any informalities and irregularities in connection therewith. It is agreed that this bid may not be withdrawn for a period of forty-five (45) days from the date and time of opening.
15. The undersigned declares that the person or persons signing this Bid Form is/are fully authorized to sign on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.
16. It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated has any interest whatsoever in this bid or the contract that may be entered into as a result of the bid and that in all respects the proposal is legal and firm, submitted in good faith without collusion for fraud.
17. It is agreed that the undersigned has complied or will comply with all requirements of local, state and national laws, and that no legal requirement has been or will be violated in making or accepting this bid in awarding the contract to him and/or in the prosecution of the work required.
18. CONFLICT OF INTEREST:

I certify no member of the School Board or District employee, or spouse or other member of his/her household shall have any undisclosed interest as noted in paragraph entitled Conflict Of Interest (Section 00100). By and for the bidder:

Signature: _____

19. APPRENTICESHIP UTILIZATION AFFIDAVIT (FOR BIDS OVER \$100,000)

Pursuant to School Board Policy 3311.1.2, Use of Apprentices, I _____
the undersigned Principal for _____
on Solicitation _____ certify:

- A. I understand that Anchorage School District (“ASD”) School Board Policy 3311.1.2 states, “For capital maintenance and construction projects with an estimated total cost of more than \$100,000, the Anchorage School District shall require that no less than fifteen percent (15%) of the total hours worked on the project shall be performed by apprentices enrolled in a federally registered or State of Alaska-approved apprenticeship program. This requirement shall only apply to crafts for which an Alaskan federally registered apprenticeship program exists.”
- B. I will ensure that apprentices employed by the prime and sub-contractors, in the eligible trades categories, will provide no less than fifteen percent (15%) of the aggregate labor hours of those eligible trades categories.
- C. I understand that if awarded a contract in excess of \$100,000, ASD will audit the prime contractor at 30-day intervals. ASD reserves the right to audit at random intervals as needed.
- D. I understand ASD will conduct random site inspections to determine that employed apprentices are working at the project site.
- E. I understand that if I am awarded a contract ASD will require the following specific reporting requirements during the contract performance period to ensure that the 15% apprenticeship utilization requirement is met:
 - a. List of the apprentices the prime contractor intends to use to meet the utilization goal, and the Alaskan federally registered apprenticeship programs to which they belong (Apprenticeship Utilization Form);
 - b. List of the subcontractors that the prime contractor will use on this project;
 - c. List of the apprentices the subcontractor intends to use to meet the utilization goal required by the prime contractor, and the apprenticeship programs they belong to (Apprenticeship Utilization Form);
 - d. Submission of Apprenticeship Utilization Program Calculations Form, to be submitted by the prime contractor, at 30-day intervals for contracts exceeding \$100,000, consisting of a compliance spreadsheet, with supporting documents demonstrating compliance by both the prime contractor and all subcontractors, identifying the trades categories that are subject to the utilization requirement, apprentice employees used to meet the goals, and apprentice hours calculation showing compliance with the required 15% utilization when compared to total hours worked in the eligible trades categories.
- F. I understand a non-compliance penalty for projects exceeding \$100,000 will be assessed at each 30-day audit per the Penalty Table, if I am found to be non-compliant during the contract period.
 - a. Failure to comply at 1st 30-day audit will result in a penalty per the Penalty Table, which will be deducted from the prime contractor's invoice.
 - b. Failure to comply in a consecutive 2nd 30-day audit will result in a penalty per the Penalty Table, which will be deducted from the prime contractor's invoice.
 - c. Failure to comply in a consecutive 3rd 30-day audit will result in a penalty per the Penalty Table, which will be deducted from the prime contractor's invoice.

- d. Failure to comply in a consecutive 4th 30-day audit will result in a penalty per the Penalty Table, which will be deducted from the prime contractor's invoice, and may result in a finding of non-responsibility on future bidding. (This penalty will repeat for any future non-compliance.)
- G. Application of the Penalty Table:
 - a. Advancement of penalties in the Penalty Table will only be assessed for consecutive non-compliance. If the contractor gets back into compliance, any future non-compliance will be assessed at the beginning step of the Penalty Table, per the applicable contract threshold category.
- H. Lack of Apprentice(s) availability:
 - a. If a contractor is awarded a contract but cannot meet the apprenticeship utilization requirement, and fail an audit, the contractor will have the opportunity to request a waiver from the apprenticeship utilization requirement. A waiver will only be granted if the contractor can factually demonstrate that the cause was from a lack of available apprentices in eligible trades categories.
- I. ASD will provide the List of Alaskan Federal Registered Apprenticeship Programs, which contains the crafts/trades categories within those federally registered programs. Once per year, ASD will receive the updated List of Alaskan Federal Registered Apprenticeship Programs from the Federal Department of Labor to capture any new Alaskan Federally Registered Apprenticeship Programs that have been added, or to capture any that have been dissolved or discontinued. The List of Alaskan Federal Registered Apprenticeship Programs provided to ASD by the Federal Department of Labor will be posted on ASD's website, as contained in the solicitation, so contractors have access to it.
- J. Definitions:
 - a. **Alaskan Federally Registered Apprenticeship Programs** are programs approved by the Federal Department of Labor, US DOL Office of Apprenticeship.
 - b. **Eligible Trades Categories** are the crafts/trades categories that fall under an Alaskan Federally Registered Apprenticeship Program. Eligible Trades Categories will be the categories measured for aggregate project hours and apprentice hours to establish the apprenticeship utilization percentage.
 - c. **The List of Alaskan Federal Registered Apprenticeship Programs** is a current list provided by ASD to contractors that shows the Alaskan Federally Registered Apprenticeship Programs and the eligible trades categories under those programs. That current list will be the list in effect and in force during the issuance of the solicitation. Any changes to the list will affect future solicitations and will not be retroactive to prior solicitations.
 - d. **Random Site Inspections** are defined as non-scheduled site inspections, in which ASD's representative will visit the project site to establish if apprentices are physically on-site. ASD will provide a minimum of 24 hours' notice to contractors prior to the site inspections.
 - e. **Consecutive Non-Compliance** is when a contractor consecutively fails to meet the required apprenticeship utilization percentage. If a contractor fails an audit, but then passes the next audit, any future non-compliance will be addressed at the first step of the Penalty Table per the contract values in the table.
 - f. **The Measurement of Aggregate Apprenticeship Utilization Hours** is defined by the following. Compliance will be audited at 30-day intervals for projects exceeding \$100,000. Each 30 day audit period will be measured independently for aggregate apprenticeship utilization hours. If a contractor does not meet the 15% apprenticeship utilization requirement in an audit period, a penalty will be assessed, per the penalty table. However, the deficiency in percentage of apprenticeship utilization hours, will not be carried forward from one audit period to the next. Contractors will only be required to meet the 15% apprenticeship utilization requirement in each audit period, which will be measured

independently. In addition, if the aggregate hours for all audit periods for the entire project are 15% or greater, any previously assessed penalties for non-compliance in an audit period will be rescinded.

- g. **Finding of non-responsibility:** If ASD determines a contractor to be non-responsible, they will not be permitted to bid on ASD projects.

IN WITNESS WHEREOF, the signature of the undersigned Contractor has been hereunto set this

_____ day of _____, 20____, at _____, Alaska.

Signature: _____

Printed Name: _____

I, _____, being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matter set forth therein are as I truly believe.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20____, at _____, Alaska.

Notary Public in and for: _____

My Commission Expires: _____.

20. LICENSE NUMBER(S):

Alaska Business License Number: _____

Alaska General or Specialty Contracting License Number: _____

Respectfully Submitted, this _____ day of _____, 20__.

Firm Name: _____

Federal Tax ID: _____

Address: _____

Signature: _____

Name (Typed): _____

Title: _____

CORPORATE SEAL (if applicable)

ENCLOSURES:

1. Bid Guarantee (in the form and amount specified or required, include Power of Attorney For Surety)

END OF SECTION

ASBESTOS ABATEMENT SUBCONTRACTOR'S CERTIFICATE OF INSURANCE

Division 0
Section 00420

ASBESTOS ABATEMENT SUBCONTRACTOR'S CERTIFICATE OF INSURANCE

PART 1. GENERAL

1.01 REFERENCE:

- A. As part of the Owner-Contractor Agreement (Document 00500), the Contractor shall cause its asbestos abatement subcontractor to submit a Certificate of Insurance on an Anchorage School District Form on which the Subcontractor's insurer certifies that the Subcontractor has insurance coverage to the same extent, with the same endorsements, and with the same limits and under the same conditions as those required of the Contractor pursuant to General Conditions of the Owner-Contractor Agreement, Article 11, with the exception of builder's risk insurance and umbrella liability insurance. The Contractor shall submit to the Owner the Subcontractor's completed Certificate of Insurance within five (5) days after the Owner's approval of the proposed Asbestos Abatement Subcontractor.

PART 2. (NOT USED)

PART 3. (NOT USED)

END OF SECTION

OWNER – CONTRACTOR AGREEMENT FORM

REFERENCE:

1. The form of agreement between the Owner and the Contractor shall be the form bound herein.
2. The Agreement shall be executed in duplicate.

CONTRACT NO. XXCXXXX
SCHOOL PROJECT TITLE
ITB 202X-8XX
ASD PROJECT NO.

Board Memo No.: N/A or NumberDate of Contract: Date of Contract

Company
Address
City, State, Zip

- ☐ Sole Proprietorship
☐ Partnership
☐ Incorporated in the
State of Alaska

OWNER: ANCHORAGE SCHOOL DISTRICT, ANCHORAGE ALASKA

CONTRACT FOR: ITB SCHOOL PROJECT TITLEAmount of Contract: Amount of Contract in words Dollars and No Cents

Base Bid:	\$xxx,xxx.xx
Additive Alternate 1:	\$xxx,xxx.xx
Siemens Allowance:	\$xxx,xxx.xx
Total:	\$xxx,xxx.xx

Statement of Work: The Contractor shall furnish all labor, equipment and materials and perform the work above described for the amount stated in strict accordance with Contract Documents, all of which are made a part of this Contract and designated as follows:

CONTRACT DOCUMENTS

- I. This Contract, consisting of two (2) pages.
- II. Section 00620 Performance Bond and Payment Bond, consisting of nine (9) pages, dated (date of contract) and attached Power of Attorney for Surety.
- III. Contractor signed Bid Form, Section 00300 and signed Addendum/a consisting of four (4) or five (5) pages.
- IV. Alaska Sex Offender/Child Kidnapper Registry Contractor Certification consisting of one (1) page.
- V. Certificates of Insurance.
- VI. Invitation to Bid (number) Project Manual dated (date) and all Drawings are hereby incorporated by reference as if in full text.
- VII. Student Community Workforce Agreement

In the event of a conflict between any of the Contract Documents and the provisions of any purchase order of materials or service request issued in connection with this Contract, the provisions of the Contract Documents shall prevail.

Work shall be started in accordance with the Notice to Proceed. Time being of the essence, work shall be completed in accordance with the Project Schedule Milestone Dates set forth under Section 00200 thereof.

The ASD Project Manager for this Contract is: Insert Name of Project Manager Cell (907) XXX-XXXX, Office (907) XXX-XXXX and insert email address.

BID BOND FORM

REFERENCE:

1. If the Bid Guarantee is submitted on Bond Form, the Bid Bond shall be the form as bound herein.

BID BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____, a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount of 5% of the Base Bid Amount for payment whereof PRINCIPAL and SURETY bind ourselves,
our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the PRINCIPAL is herewith submitting its proposal for _____

The condition of this obligation is such that if the PRINCIPAL will, within the time required, enter into a
formal contract, and give a good and sufficient bond to secure the performance of the terms and conditions
of the contract, then this Obligation to be void; otherwise, the PRINCIPAL and SURETY will pay unto the
OBLIGEE the amount stated above.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____

Location: _____

CONTRACTOR

Name: _____

Address: _____

City/State: _____

SURETY

Name: _____

Address: _____

City/State: _____

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution of this bond on the _____
day of _____, 20____.

PRINCIPAL

SURETY

Contractor Name

Corporate Surety Name (Seal)

By: _____
Signature

By: _____
Signature

Typed Name and Title

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

END OF SECTION

PERFORMANCE BOND AND PAYMENT BOND

REFERENCE:

1. The Performance Bond and Payment Bond shall be the forms as bound herein.

CONSTRUCTION PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____, a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount

of _____
_____ Dollars

(\$_____), for payment whereof PRINCIPAL and SURETY bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these present.

This Construction Performance Bond ("Bond") is entered into by and between the undersigned parties to
ensure the faithful performance of the Construction Contract listed below.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____
Location: _____

BOND

Number: _____
Date: _____
Amount: _____

CONSTRUCTION CONTRACT

Number: _____
Date: _____
Amount: _____

CONTRACTOR

Name: _____
Address: _____
City/State: _____

SURETY

Name: _____
Address: _____
City/State: _____

PERFORMANCE BOND AND PAYMENT BOND

Division 0
Section 00620

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution hereof of two (2) original counterparts as the _____ day of _____, 20____.

PRINCIPAL

Contractor Name

Signature

Typed Name and Title

SURETY

Corporate Surety Name (Seal)

Signature

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

CONSTRUCTION PERFORMANCE BOND TERMS AND CONDITIONS

1. The CONTRACTOR and the SURETY, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.
2. If the CONTRACTOR completely and properly performs all of its obligations under the Construction Contract, the SURETY and the CONTRACTOR shall have no obligation under this Bond.
3. If there is no OWNER Default, the SURETY's obligation under this Bond shall arise after:
 - a. OWNER has declared a CONTRACTOR Default under the Construction Contract pursuant to the terms of the Construction Contract; and
 - b. The OWNER has agreed to pay the Balance of the Contract Sum to:
 - i. The SURETY in accordance with the terms of this Bond and the Construction Contract; or
 - ii. A contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.
4. When the OWNER has satisfied the conditions of Paragraph 3, the SURETY shall promptly (within thirty (30) days) and at the SURETY's expense elect to take one of the following actions:
 - a. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Construction Contract (but OWNER may withhold consent, in which case the SURETY must election option 4b, 4c or 4d, below); or
 - b. Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or
 - c. Obtain bids from qualified contractors acceptable to OWNER for a contract for performance and completion of the Construction Contract, and, upon determination by OWNER of the lowest responsive and responsible bidder, arrange for a contract to be prepared for execution by OWNER and the contractor selected with OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified SURETY equivalent to the bonds issued on the Construction Contract; and, if the SURETY's obligations defined in Paragraph 6 exceed the Balance of the Contract Sum, then the SURETY shall pay to OWNER the amount of such excess; or
 - d. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and, with reasonable promptness under the circumstances and after investigation and consultation with OWNER, determine in good faith the amount for which it may then be liable to OWNER under Paragraph 6 for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefore to OWNER with full explanation of the payment's calculation. If OWNER accepts the SURETY's tender under this paragraph 4.d, OWNER may still hold SURETY liable for future damages then unknown or unliquidated resulting from the CONTRACTOR Default. If OWNER disputes the amount of the SURETY's tender under this paragraph 4.d, OWNER may exercise all remedies available to it at law to enforce the SURETY's liability under paragraph 6.

5. If the SURETY does not proceed as provided in Paragraph 4, then the SURETY shall be deemed to be in default on this Bond ten (10) days after receipt of an additional written notice from OWNER to the SURETY demanding that the SURETY perform its obligations under this Bond. At all times OWNER shall be entitled to enforce any remedy available to OWNER at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, or coordinate work with other consultants or contractors.
6. The SURETY's monetary obligation under this Bond is limited by the amount of this Bond. Subject to these limits, the SURETY's obligations under this Bond are commensurate with the obligations of the CONTRACTOR under the Construction Contract. The SURETY's obligations shall include but are not limited to:
 - a. The responsibilities of the CONTRACTOR under the Construction Contract for completion of the Construction Contract and correction of defective work;
 - b. The responsibilities of the CONTRACTOR under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction Contract, including but not limited to, all valid and proper back charges, offsets, payments, indemnities or other damages;
 - c. Additional legal, design professional and delay costs resulting from the CONTRACTOR Default or resulting from the actions or failure to act of the SURETY under Paragraph 4.
7. No right of action shall accrue on this Bond to any person or entity other than OWNER or its heirs, executors, administrators, or successors.
8. The SURETY hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. The SURETY consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate SURETY on this Bond or in any way affect the obligations of SURETY on this Bond.
9. Any proceeding, legal or equitable, under the Bond shall be instituted in the Superior Court for the State of Alaska, Third Judicial District.
10. Notice to the SURETY, OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the front page.
11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.
12. Definitions.
 - a. Balance of the Contract Sum: The total amount payable by OWNER to the CONTRACTOR pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved modifications to the Construction Contract.
 - b. Construction Contract: The agreement between OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

PERFORMANCE BOND AND PAYMENT BOND

Division 0
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- c. CONTRACTOR Default: Material failure of the CONTRACTOR which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract, including but not limited to, the provisions of Article 14 of the General Conditions of the Construction Contract.
- d. OWNER Default: Material failure of OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted CONTRACTOR Default and is sufficient to justify CONTRACTOR termination of the Construction Contract.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT that we, _____ as
Contractor

PRINCIPAL, and _____ a corporation duly organized under the laws
Surety

of the State of _____, as SURETY/OBLIGOR authorized to transact surety business in the
state of Alaska, are held and firmly bound unto the ANCHORAGE SCHOOL DISTRICT, as OBLIGEE, in
the amount

of _____ Dollars

(\$ _____), for payment whereof PRINCIPAL and SURETY bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these present.

This Payment Bond ("Bond") is entered into by and between the undersigned parties to ensure the faithful
performance of the Construction Contract listed below.

OWNER

Anchorage School District
4919 Van Buren Street
Anchorage, Alaska 99517

CONSTRUCTION PROJECT

Solicitation No.: _____
Location: _____

BOND

Number: _____
Date: _____
Amount: _____

CONSTRUCTION CONTRACT

Number: _____
Date: _____
Amount: _____

CONTRACTOR

Name: _____
Address: _____
City/State: _____

SURETY

Name: _____
Address: _____
City/State: _____

PERFORMANCE BOND AND PAYMENT BOND

Division 0
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IN TESTIMONY WHEREOF, the parties hereunto have caused the execution hereof of two (2)
original counterparts as the _____ day of _____, 20_____.

PRINCIPAL

Contractor Name

Signature

Typed Name and Title

SURETY

Corporate Surety Name (Seal)

Signature

Typed Name, Attorney-in-fact

WITNESS AS TO PRINCIPAL

Note: Attach Power of Attorney for Surety Signator.

PAYMENT BOND TERMS AND CONDITIONS

The condition of this obligation is such that if the PRINCIPAL shall promptly make payment to all Claimants who furnish labor or materials in the prosecution of the Work provided for in the Construction Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect.

This Bond has been furnished to comply with Alaska Statute 36.25.010, and to allow enforcement rights pursuant to Alaska Statute 36.25.020. Any provisions in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory requirements shall be deemed incorporated herein.

The SURETY hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. The SURETY consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate SURETY on this Bond or in any way affect the obligations of SURETY on this Bond.

END OF SECTION

SAMPLE FORMS AND CERTIFICATES

A.GENERAL

A.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Comply with the contract conditions requirements and specified administrative procedures in closing-out work.

A.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01700: Project Close-out
- B. General and Supplementary General Conditions

A.03 APPLICATION AND CERTIFICATE FOR PAYMENT

- A. Use Anchorage School District Form 100, 100A, 100B, and 100C attached herein.

A.04 CERTIFICATION OF SUBSTANTIAL COMPLETION

- A. Use Anchorage School District Form 101 attached herein.

A.05 CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

- A. Use Anchorage School District Form 102 attached herein.

A.06 RELEASE ON CONTRACTS

- A. Use Anchorage School District Form 103 attached herein.

A.07 CONSENT OF SURETY COMPANY TO FINAL PAYMENT

- A. Use Anchorage School District Form 104 attached herein.

A.08 CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE

- A. Use Anchorage School District Form 105 attached herein.

A.09 CERTIFICATES OF INSURANCE

- A. The contractor's Certificate of Insurance shall be on an industry standard form with, as a minimum, the categories and clauses on the Accord form with contractual clauses for contract number and description, subrogation waiver, additional insured and cancellation notification.

A.10 REQUEST FOR INFORMATION

- A. Contractor's requests for information shall be on Anchorage School District request for information forms.

A.11 PRIME CONTRACT POTENTIAL CHANGE ORDER (PCO)

- A. Proposals will be executed on Anchorage School District PCO forms.

A.12 CERTIFICATE OF COMPLIANCE

- A. The Contractor shall submit a notarized Certificate of Compliance, contained in this section, with his application for Final Payment.

A.13 WARRANTY OF WORK

- A. The Contractor shall furnish to the Owner a notarized Warranty of Work after Final Payment, contained in this section, with his application for Final Payment.

A.14 AHERA EXCLUSION DOCUMENT

- A. The Contractor shall furnish to the Owner a signed AHERA Exclusion Document, contained in this section, with his application for Final Payment.

A.15 PRIME CONTRACT CHANGE ORDER (PCCO)

- A. Change Orders/Contract Modifications will be executed on Anchorage School District PCCO forms.

A.16 CONTRACTOR'S QUALITY CONTROL REPORT (CQC)

- A. The Contractor shall complete the CQC Report in accordance with Section 01400.

A.17 DEPARTMENT OF LABOR NOTICE OF WORK

- A. The Contractor shall furnish to the Department of Labor a Notice of Work prior to start of construction.

A.18 DEPARTMENT OF REVENUE TAX CLEARANCE REQUEST FORM

- A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Revenue, contained in this section, with his application for Final Payment.

A.19 DEPARTMENT OF LABOR TAX CLEARANCE REQUEST FORM

- A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Labor, contained in this section, with his application for Final Payment.

A.20 SUBMITTAL CONTROL FORM

- A. Submittals will be executed on Anchorage School District Submittal Control Forms.

A.21 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY CONTRACTOR CERTIFICATION

- A. Contractor certifies contractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of contractor who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to contractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

A.22 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY SUBCONTRACTOR CERTIFICATION

- A. Subcontractor certifies subcontractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of subcontractor who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to subcontractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

A.23 STATE OF ALASKA SEX OFFENDER/CHILD KIDNAPPER REGISTRY SUB-SUBCONTRACTOR CERTIFICATION

- A. Sub-subcontractor certifies sub-subcontractor is familiar with and is in compliance with Anchorage School Board Policy 3515.5, that no employee or agent of sub-subcontractor who will be on district property is registered as a sex offender or child kidnapper in Alaska [Alaska Department of Public Safety "Sex Offender/Child Kidnapper Registry"] or in any other state in which the employee or agent previously lived or worked, and that, to sub-subcontractors knowledge, no employee or agent is a convicted sex offender or child kidnapper.

A.24 LIST OF FEDERALLY REGISTERED ALASKAN APPRENTICESHIP PROGRAMS

- A. This list from the Federal Department of Labor will provide contractors with the list Alaskan apprenticeship programs and crafts/trades categories that are subject to ASD's AUP.

A.25 APPRENTICESHIP UTILIZATION FORM

- A. The Prime Contractor will list the crafts/trades categories required to complete the project that have Alaskan Federally Registered Apprenticeship Programs. This list will include all crafts/trades categories for both the prime and subcontractors.

A.26 APPRENTICESHIP UTILIZATION PROGRAM CALCULATION FROM

- A. This form will be submitted by the prime contractors to demonstrate compliance with the apprenticeship utilization percentage for both prime and subcontractors on the project.

A.27 PENALTY TABLE

- A. This table lists the penalties for non-compliance with the AUP.

ANCHORAGE SCHOOL DISTRICT APPLICATION FOR PAYMENT		Contract #: Application #: Application date: Period to:
Project Name: ITB/RFP No.: Name of Contractor: Address:	COMPUTATION OF PAYMENT DUE (a) Original contract amount (ASD 100A) \$ - (b) Net Change by Change Orders (ASD 100B) \$0.00 (c) Adjusted contract amount to date (a+b) \$ - (d) Work Completed to Date (ASD 100B) \$ - (e) Materials Stored (ASD 100B) \$ - (f) Total Completed and Stored To Date (d+e) \$ - (g) Less: amount retained in accordance with contract terms \$ - (h) Net amount earned on contract work to date (f-g) \$ - (i) Less: amount of previous payments (ASD 100B) \$0.00 (j) CURRENT PAYMENT DUE (h-i) \$ - (k) Balance to Finish (c-h) \$ -	
CERTIFICATION OF CONTRACTOR According to the best of my knowledge and belief, I certify that all items and amounts shown on the face of this Application for Payment are correct; that all work has been performed and/or material supplied in full accordance with the requirements of the referenced Contract, and/or duly authorized deviations, substitutions, alterations, and/or additions; that payment has been made for all materials received and work performed for which previous pay applications were approved; that no part of the "Balance Due This Payment" has been received and that it is currently due.		
_____ (Contractor)		By _____ (Signature of Authorized Representative)
_____ Date		_____ Title:
CERTIFICATION OF ARCHITECT According to the best of my knowledge and belief, and based on on-site observations, I certify that the work completed as shown on ASD 100B has progressed as indicated, the quality of work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the Current Payment Due shown above.		
_____ Date		_____ (Signature of Architect)
APPROVED FOR PAYMENT _____ Date		
_____ (ASD Project Manager)		

ASD 100 (1/15)

[illegible]

[illegible]

ASD# 100B (1/15) Continuation
Sch. of Values/
Work Completed

Page 1
of Detail Schedule

[illegible]ASD# 100B (1/15) Continuation
Sch. of Values/
Work CompletedPage 2
of Detail Schedule

ANCHORAGE SCHOOL DISTRICT					
APPLICATION FOR PAYMENT Schedule of Stored Materials					
Project Name:				Contract #:	
ITB/RFP No. :				Application #:	
Name of Contractor:				Application date:	
				Period to:	
INVOICE #	VENDOR	DESCRIPTION	AMOUNT STORED AT END OF THIS PERIOD		
TOTAL STORED MATERIALS			\$		

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: _____ Contract Number: _____

Contractor: _____ Contract Date: _____

Architect: _____ Date of Issuance: _____

Owner: ANCHORAGE SCHOOL DISTRICT
1301 Labar Street
Anchorage, Alaska 99515**Project Description:**

The work performed under this contract has been reviewed and found to be substantially complete. The date of Substantial Completion is hereby established as: _____

Definition of Date of Substantial Completion:

The date of substantial completion of the project is the date certified by the Owner when the work is substantially complete in accordance with, and defined in the Contract Documents.

A list of items to be completed or corrected, prepared by the Owner and verified and amended by the Architect is appended hereto. The failure to include any items or such list does not alter the responsibility of the Contractor to complete the project in accordance with the Contract Documents.

The Contractor will complete or correct the work on the list of items appended hereto within 30 days from the date of substantial completion.

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as follows: _____

In reliance upon the certification of the Contractor and the Architect, the Owner hereby accepts the project as substantially complete. In accordance with the Contract Documents, the Owner hereby elects to assume occupancy of _____

_____ at _____ a.m./p.m. on
_____.

Owner: **ANCHORAGE SCHOOL DISTRICT**

By: _____ Title: _____ Date: _____

Architect: _____

By: _____ Title: _____ Date: _____

Contractor: _____

By: _____ Title: _____ Date: _____

ASD 101 (01/03)

**CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____ entered into by the
Anchorage School District, and _____ for the construction of _____

The undersigned, pursuant to the General Conditions of the Contract for the construction, _____, hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the District or his property might in any way be held responsible.

EXCEPTIONS:

IN WITNESS WHEREOF, the seal of the undersigned Contractor have been hereunto set this

day of

, at

By

being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

By

Subscribed and sworn to before me this _____ day of

, at

Notary Public in and for

My Commission Expires _____

RELEASE ON CONTRACT
ANCHORAGE SCHOOL DISTRICT

WHEREAS, by the terms of a contract dated _____ entered into by the Anchorage School District, and _____ for the construction of _____,

it is provided that:

"Neither the final payment nor the remaining retained percentage shall become due until the Contractor shall provide the Owner (1) with a waiver and release of liens, on the forms provided by the Owner, executed by the Contractor..."

NOW THEREFORE, in consideration of the premises and the payment by the Anchorage School District to the undersigned Contractor of the amounts due under the contract and any changes or modifications thereto, to wit, the sum

of \$ _____ Dollars,
(Numbers) (In Words)

the undersigned Contractor hereby releases and forever discharges the Anchorage School District including its property, particularly that real property known as the

_____ of the Anchorage School District, of and from all manner of debts, dues and sum or sums of money, accounts, claims, and demands whatsoever, in Law and in equity, under or by virtue of said contract, and warrants good title to all material, supplies and equipment installed or incorporated in the project and all work delivered to the premises, together with all improvements and appurtenances constructed thereon by:

_____ to the Anchorage School District free of any claims, liens or encumbrances. Neither the undersigned nor any person, firm or corporation furnishing material or labor for any work covered by this Contract has any right to a lien upon the premises nor improvement thereon, except:

—

IN WITNESS WHEREOF, the signature of the undersigned Contractor has been hereunto set this

_____ day of _____, 20____, at _____, Alaska.

Signature: _____

Printed Name: _____

I, _____, being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20____, at _____, Alaska.

Notary Public in and for _____

My Commission Expires: _____.

ASD Form 103

CONSENT OF SURETY COMPANY
TO FINAL PAYMENT

PROJECT: _____

PROJECT NUMBER: _____

CONTRACTOR: _____

CONTRACT DATE: _____

TO: Anchorage School District

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above:

_____ (Surety Company)

on bond of

_____ (Contractor)

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to Anchorage School District, Owner as set forth in said Surety Company's bond. Surety expressly agrees that any and all valid claims of sub-Contractors and all persons supplying labor or materials to the project will be satisfied by Contractor or Surety in a timely manner

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this

_____ day of _____, 20____.

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASD 104

**CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE
ANCHORAGE SCHOOL DISTRICT**

PROJECT:

PROJECT NUMBER:

TO: Anchorage School District

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above,
the:

_____ (Surety Company)

on bond of

_____ (Contractor)

HEREBY APPROVES OF THE REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE to the Contractor
as follows:

The surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the
Surety of any of its obligations to **ANCHORAGE SCHOOL DISTRICT, OWNER**

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this
day of .

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASDF Form 105

CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY)
PRODUCER 		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
INSURED 		
		INSURERS AFFORDING COVERAGE
		NAIC #
		INSURER A: INSURER B: INSURER C: INSURER D: INSURER E:
COVERAGES		
THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		
INSR ADD'L LTR INSRD	TYPE OF INSURANCE	POLICY NUMBER
	GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC	POLICY EFFECTIVE DATE (MM/DD/YYYY)
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ☐ NON-OWNED AUTOS	POLICY EXPIRATION DATE (MM/DD/YYYY)
	GARAGE LIABILITY ☐ ANY AUTO	LIMITS
	EXCESS / UMBRELLA LIABILITY ☐ OCCUR ☐ CLAIMS MADE ☐ DEDUCTIBLE ☐ RETENTION \$	EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under SPECIAL PROVISIONS below OTHER	COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$ EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$ WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS		
CERTIFICATE HOLDER		CANCELLATION
		SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE

ACORD 25 (2009/01)

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IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

ACORD 25 (2009/01)

Anchorage School District

Facilities Maintenance
1301 Labar Street
Anchorage, Alaska 99515

Phone: (907) 348-5215
Fax: (907) 348-5227

REQUEST FOR INFORMATION

No.

TITLE:

DATE:

PROJECT:

Project No.:

TO:

REQUEST:

ANSWER:

Answered By:

Printed Name

Signature

Date

This is not an authorization to proceed with any work involving additional cost and / or time.

Notification must be given in accordance with Contract Documents if any clarification, variation or Architects/Engineers responses cause any change to the Contract Documents.

ANCHORAGE SCHOOL DISTRICT USE ONLY:

Is this Request for Information associated with an Request for Proposal?

Reviewed By:

Yes ____ No ____

Signed:

Date:

Request for Proposal #

Project Manager



Capital Planning & Construction
1301 Labar St
Anchorage, Alaska 99515
Phone: (907) 348-5284
Fax: (907) 348-5227

Project:

PCO #XXX

Prime Contract Potential Change Order #XXX: Name

TO:	FROM:
PCO NUMBER/REVISION:	CONTRACT:
REQUEST RECEIVED FROM:	CREATED BY:
STATUS:	CREATED DATE:
REFERENCE:	PRIME CONTRACT CHANGE ORDER:
FIELD CHANGE:	CHANGE ORDER REQUEST:
LOCATION:	ACCOUNTING METHOD:
SCHEDULE IMPACT:	PAID IN FULL:
CHANGE REASON:	TOTAL AMOUNT:

Within seven (7) days, submit an itemized proposal.

Provide labor, material, equipment, and supervision necessary to complete changes to project as represented by the documentation indicated below. The quoted price shall include all direct and indirect costs (additive and deductive) associated with and resulting from this work, per the General Conditions of the Contract. Provide lump sum proposal properly itemized and supported by sustaining data to permit evaluation. The quoted price shall be considered full compensation and include all delay, impact, and actual cost associated with the resulting changes from this extra work.

POTENTIAL CHANGE ORDER DESCRIPTION: *(The Contract Is Changed As Follows)*

ATTACHMENTS:

APPROVAL			
By:		By:	
Project Manager	Date	Contractor	Date
By:		By:	
Construction Supervisor		Senior Director of CP&C	
Date:		Date:	
Required if amount exceeds \$10,000		Required if amount exceeds \$50,000	

Capital Planning & Construction

page 1 of 1

CERTIFICATE OF COMPLIANCE

No final payment shall be made until the Contractor shall file with the Owner, prior to acceptance of the work, a notarized Certification of Compliance in the following form:

The Contractor does hereby certify that all work has been performed and materials supplied in accordance with the Drawings, Specifications and Contract Documents for the above work, and that:

No less than the prevailing rates of wages as ascertained by the governing body of the Contracting Agency has been paid to laborers, workmen and mechanics employed on this work;

There have been no unauthorized substitutions of Subcontractors; nor have any subcontracts been entered into without prior notice having been submitted to the Owner prior to the start of such subcontracted work;

No subcontract was assigned or transferred or performed by any Subcontractor other than the original Subcontractor, without prior notice having been submitted to the Owner together with the names of all Subcontractors;

All claims for material and labor and other paid service performed in connection with these specifications have been paid;

All monies due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund, the State Tax Commission, Hospital Associations and/or others have been paid.

In WITNESS WHEREOF, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

As determined necessary, evidence of compliance may be required to be submitted with and made a part of this Certificate of Compliance.

WARRANTY OF WORK

Prior to Final Payment, the Contractor shall furnish to the Owner a Warranty of Work in the following form:

The Contractor does hereby warrant all work and materials to be in full and complete accordance with the Contract Documents and Agreement between Owner and Contractor, and requirements appertaining thereto; that all work and materials are free from any and all defects and imperfections, and fully suitable for the use and purposes for which each and every part is intended. The Contractor also agrees that, should any defect develop or appear which the Project Manager or Owner's Representative finds was Not caused by improper use, the Contractor shall promptly, upon demand, fully correct, substitute and make good any such defective material without any cost to the Owner and will save the Owner harmless against any claim, demand, loss or damage by reason of any breach of this warranty.

The period of this warranty shall commence on the date of Substantial Completion.

The warranty shall continue to be in full force and effect for the period of one (1) year, except for those items for which a longer period of warranty is specifically stated in the Warranties for work in Technical Sections of the Specifications.

Warranties for work stated in Technical Section shall continue in full force and effect for the respective periods expressly stated.

In WITNESS WHERE, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

AHERA Exclusion Document

Contractor's Verification of Asbestos-Free Construction

Project: _____ Project Number: _____

Contractor: _____ Date: _____

To: Anchorage School District
Facilities Coordinator,
AHERA LEA Designated Person

To the best of our knowledge, no asbestos-containing building materials were installed in this project.

Attest: _____
Signature of Authorized Representative

Title



Capital Planning & Construction
 1301 Labar St
 Anchorage, Alaska 99515
 Phone: (907) 348-5254
 Fax: (907) 348-5227

PCCO #XXX

Project:

Prime Contract Change Order #XXX:

TO:	FROM:
DATE CREATED:	CREATED BY:
CONTRACT STATUS:	REVISION:
DESIGNATED REVIEWER:	REVIEWED BY:
DUE DATE:	REVIEW DATE:
CONTRACTUAL COMPLETION DATE:	
SCHEDULE IMPACT:	EXECUTED:
CONTRACT FOR:	TOTAL AMOUNT:
DESCRIPTION:	
ATTACHMENTS:	

CHANGE ORDER REQUESTS IN THIS CHANGE ORDER:

COR #	Issue	Description	Cost
TOTAL:			\$ 0.00

CHANGE ORDER LINE ITEMS: reason

Original contract sum	\$
Previously authorized change orders	\$
Previous contract amount	\$
Current change order amount	\$
New contract sum	\$
Percent of original contract sum	

Contractor _____ DATE _____

Senior Director of Purchasing/Warehouse _____ DATE _____

Capital Planning & Construction

page 1 of 1

SAMPLE FORMS AND CERTIFICATES

Division 0
Section 00630

CONTRACTOR'S QUALITY CONTROL REPORT (CQC)		DATE	REPORT NO.
CONTRACT NO. AND NAME OF CONTRACTOR		DESCRIPTION AND LOCATION OF THE WORK:	
WEATHER CLASSIFICATION:			CLASSIFICATION:
CLASS A	No interruption of any kind from weather conditions occurring on this or previous shifts.	CLASS _____	
CLASS B	Weather occurred during this shift that caused a complete stoppage of all work.	TEMPERATURE:	
		MAX _____ MIN _____	
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.	PRECIPITATION:	
CLASS D	Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.		
CLASS E	Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.		
OTHER	Explain.	INCHES _____	
CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: (Attach list of items of equipment either idle or working as appropriate.) a. _____ b. _____ c. _____ d. _____ e. _____ f. _____ g. _____ h. _____			
1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above.) 			
2. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.) 			

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:
4. QUALITY CONTROL REPORTS (items requiring special inspections):
5. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Owner on construction deficiencies, retesting required, etc., with action to be taken.)
6. REMARKS: (Cover any conflicts in plans, specification or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)
CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above. _____ CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
www.labor.state.ak.us/lss/lss.htm

- This form must be typed or printed in ink.
- Fill in all blanks or form will be returned for correction (see back).
- Please allow a minimum of 10 working days for processing.

ENTER YOUR FAX # _____
AND LIST YOUR MAILING ADDRESS BELOW

Contractor, company or agency name, address, city, state & ZIP + 4

NOTICE OF WORK

Filing Fee Required

Project name	
Specific site description	
Contract awarding agency	
Address	
City	State ZIP + 4
Contract awarding agency contact person Phone #	
Location and city where work is to be performed	
Date work to begin (m/d/y)	Do you intend to use subcontractors? ☐ Yes ☐ No
Final Bid Date	Contract #

Primary contractor (has contract with the public agency)		Type of work		Amount of subcontract
List all contractors & subcontractors (Attach extra sheet if necessary)				
CERTIFICATION: I hereby certify that the above information is correct. Enclosed is the filing fee computed at 1% of the total amount of all my subcontractors on this project. This amount includes the contract value for the primary contractor. I understand that the maximum fee I am required to pay is \$5,000. I further certify that all contractors shall be made aware of the requirements of AS 36.05.010 - .110 and AS 36.10.007 - .990 before working.		Total value of subcontracts		\$
				+
		Value of work performed by primary contractor		\$
		Amount subject to fee		\$
				Multiply by .01
		Total fee enclosed =		\$
		ROUND FEES TO NEAREST DOLLAR		
Signature _____ Date _____		For Dept. Use Only		
Title _____		Amount: _____ Check Number: _____ Cash _____ Received By: _____ Date: _____ Credit Card Confirmation _____ Visa _____ MC _____ Project Name _____ DOLWD Project # _____		
Fax # _____ Phone # _____				
For Dept. Use Only				
Accepted:				
By _____ Department of Labor and Workforce Development				

Wage & Hour date-stamped copy of this form will serve as temporary receipt.

How to expedite the processing of your form:

Acceptance of this notice will be based on the information provided by the primary contractor.

ERRORS THAT CAUSE REJECTION

No fee included or incorrect amount. If total contract amount is less than \$25,000 no filing fee is required. Contract amounts paid to owner/operators with no employees are exempt from the fee. **The maximum total filing fee for any one project is \$5,000.00.**

Missing – Enter the “time and materials” if applicable. The exact dollar amount will be required on the Notice of Completion to be filed when the project is done.

Missing – The name of each subcontractor and the amount or estimated amount of the subcontract is required. Enter the “time and materials” if applicable. The exact dollar amount will be required on the Notice of Completion to be filed when the project is done.

Missing – Notice of Work must be signed by an authorized representative.

FILING INSTRUCTIONS

If there is not enough space to list all contractor/subcontractor information, attach additional sheets.

A Wage and Hour Administration (WH) date-stamped copy of this form will serve as a temporary receipt, while the acceptance of fees is processed. WH will mail or fax the accepted copy of this notice to the organization provided on the front of this form. Make a copy for your records. This will serve as your notice that the fees paid have been accepted by WH.

For questions call the nearest WH office:

Juneau: (907) 465-4842 Anchorage: (907) 269-4900 Fairbanks: (907) 451-2886

For more forms, see www.labor.state.ak.us/lss/lssforms.htm

Submit the notice and the appropriate filing fee to:

Alaska Department of Labor and Workforce Development
Wage and Hour Administration
P.O. Box 107021
Anchorage, AK 99510-0721

If no fee is required, you may fax the notice to (907) 269-4915

**Alaska Department of Revenue
TAX CLEARANCE REQUEST FORM**

Applicant's Name: _____

EIN/SSN: _____

Mailing Address: _____

City/State/Zip Code: _____

I hereby authorize the Alaska Department of Revenue to release to

(Name of Department or Agency)

Department's Statute on tax clearance: _____

whose facsimile number or email address is _____.

confirmation that all taxes, penalties and interest due the Department of Revenue have been
paid and that there are no outstanding amounts due.

Signed: _____

Printed Name: _____

Title*: _____

*If tax clearance is being requested on behalf of a corporation/LLC/partnership, must be signed by an
officer/member/partner.

Send completed form by email to the Department of Revenue at DOR.tax.accounting@alaska.gov

DEPARTMENT USE ONLY

- ☐ *The above applicant is current on all taxes, penalties and interest due and
is in good standing with the Alaska Department of Revenue.*
- ☐ *The above applicant is not current on all taxes, penalties and interest due
and is not in good standing with the Alaska Department of Revenue.*

Department of Revenue Representative

Date

TaxClearanceRequestForm (Rev 2/21)



THE STATE
of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Labor and Workforce
Development

Division of Employment and Training Services
Employment Security Tax

P.O. Box 115509
Juneau, AK 99811-5509
Relay Alaska (in state): (800) 770-8973 or 7.1.1
Relay Alaska (out of state): (800) 770-8255
Toll free: (888) 448-2937
Phone: (907) 465-2787
Fax: (907) 465-2374

Tax Clearance Request Form for Contractors

Date of request: _____

Business name of the contractor a Tax Clearance is being requested for: _____

Business address: _____

Business contact phone number: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for (*i.e. beginning and ending date of a subcontract agreement*):

Subcontract project name: _____

Name and address of the person this Tax Clearance is to be returned to: _____

Comments or additional information: _____

For agency use only:

- ☐ Tax Clearance is granted
- ☐ Tax Clearance is not granted (*please have employer contact the department*)
- ☐ No account on file, liability unknown (*please have employer contact the department*)
- ☐ Employer has stated no employees, Tax Clearance not required.

Agency representative signature: _____ Date: _____

Agency representative title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. labor.alaska.gov/estax

Rev. 8/2018

Submittal Control Form

Project Title: _____

Project No: _____
Contract No: _____

Contractor: _____

Submittal No. _____

Address: _____

Contact: _____

Telephone: _____

Fax: _____

New Submittal

Resubmittal

Submittal is as Specified?	Yes	No
2. Revision Number:	_____	_____
3. Submittal Control No.:	_____	_____
4. Description:	_____	_____
5. Spec. Section/Dwg Ref.:	_____	_____
Number of Copies:	_____	_____

Remarks:

Review is for general design or arrangement only. Not for quality, dimension or fit.

Submitted By _____

Date _____

Forwarded for Design Review: _____

Date

ASD Reviewed / Forwarded By _____

Review Stamp

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
CONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.
2. that I have required all subcontractors and any of their sub-subcontractors to certify, or will require all subcontractors and any of their sub-subcontractors to certify, that they researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter district property in connection with the contract is listed in the Registry. I will provide all such certifications to the district on request.
3. To my knowledge, no employee or agent of bidder, or any sub-contractor or sub-sub-contractor of bidder, who may enter district property in connection with the contract is: (a) listed in the sex offender/child kidnapper registry of any other state; or, (b) is a convicted sex offender or child kidnapper.
4. I have read district Board Policy 3515.5 and certify that the bidder will comply with Board Policy 3515.5. The bidder will not send any employee or agent who is a sex offender or child kidnapper to district property, as that term is defined in Board Policy 3515.5.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 4, 2018

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
SUBCONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.

2. that I have required all subcontractors and any of their sub-subcontractors to certify, or will require all subcontractors and any of their sub-subcontractors to certify, that they researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter district property in connection with the contract is listed in the Registry. I will provide all such certifications to the district on request.

3. that if my company enters into an agreement to perform work as a Subcontractor for _____ the General Contractor for the district under Solicitation No. _____, my company will not allow any worker whose name appears on the State of Alaska Sex Offender/Child Kidnapper Registry to perform work on or at the Project site.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 21, 2015

**STATE of ALASKA SEX OFFENDER/CHILD KIDNAPPER
REGISTRY
SUB-SUBCONTRACTOR CERTIFICATION**

Pursuant to Article 1, Subparagraph 1.02, of the Instructions to Bidders, Specification Section 00100, I _____ the undersigned Principal for _____ on Solicitation No. _____, certify:

1. that I, either personally or through a person designated by me, have researched the State of Alaska Sex Offender/Child Kidnapper Registry to confirm that no employee or agent who may enter Anchorage School District property in connection with the contract is listed in the Registry.

2. that if my company enters into an agreement to perform work as a Sub-subcontractor for _____ a Subcontractor for the General Contractor for the district under Solicitation No. _____, my company will not allow any worker whose name appears on the State of Alaska Sex Offender/Child Kidnapper Registry to perform work on or at the Project site.

By: _____
Signature Printed Name

Title: _____

Dated: _____

Revised April 21, 2015

ANCHORAGE SCHOOL DISTRICT'S
LIST OF

Program Number	Program Name	Program Status	Program Address	Occupation Title
AK000900003	ARC of Alaska, Inc.	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	CARPENTER
AK000130023	ALASKA ACUSTICAL	Registered	900 Warren Street ETCHEMNA AK 99001	CARPENTER
AK000550003	Alaska Copiers Training Trust	Registered	8751 King Street Anchorage AK 09515	CARPENTER
AK000108168	Collins Construction, Incorporated	Suspended	1151 W. Nugent Avenue Wasilla AK 99654	CARPENTER
AK000125887	Finished Works, LLC	Registered	P.O. Box 521 791, Big Lake AK 99652	CARPENTER
AK000178017	H Construction, LLC	Registered	15581 Tealton Circle Palmer AK 99645	CARPENTER
AK000081120	Woodright Construction, Inc.	Registered	2606 C STREET, SUITE 2B ANCHORAGE AK 99503	CARPENTER
AK000300009	YUKON-KUSKOKWIM DELTA APPRENTICESHIP PROGRAM	Registered	P.O. Box 803 BETHEL AK 99509	CARPENTER
AK000550008	Alaska Copiers Training Trust	Registered	8751 King Street Anchorage AK 99515	CARPENTER
AK000550009	Alaska Copiers Training Trust	Registered	825 East 8th Avenue, Suite 10 Anchorage AK 99501	CARPENTER
AK000700017	Alaska Trowel Trades ATC	Registered	P.O. Box 82061 Fairbanks AK 99708	CEMENT MASON
AK0017-AK-72685	Rock Concrete Construction, LLC	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	CONSTRUCTION CRAFT LABORER
AK000900008	ARC of Alaska, Inc.	Registered	17005 OLD GLENN HWY, CHUGIAT AK 99567	CONSTRUCTION CRAFT LABORER
AK001940006	Alaska Lobbers JATC	Registered	P.O. Box 1188 Petersburg AK 99833	CONSTRUCTION CRAFT LABORER
AK001744937	Rock-n-Road Construction, Inc.	Registered	5099 E. Blue Lupine Drive Wasilla AK 99654	CONSTRUCTION CRAFT LABORER
AK0001147693	Wolverine Supply, Inc.	Registered	P.O. Box 128 Eemmonak AK 99581	CONSTRUCTION CRAFT LABORER
AK000135904	Yakom River Towing, LLC	Registered	520 East 24th Avenue, Suite 200 Anchorage AK 99503	CONSTRUCTION DRIVER
AK000000007	ALASKA TEAMSTER-EMPLOYER SERVICE TRAINING TRUST	Registered	P.O. Box 1188 Petersburg AK 99833	CONSTRUCTION DRIVER
AK0017-AK-457	Rock-n-Road Construction, Inc.	Registered	988 Devere Street Fairbanks AK 99709	DIESEL MECHANIC
AK0017-AK-550	After Hours Truck & Fleet	Registered	450 Ocean Dock Road Anchorage AK 99501	DIESEL MECHANIC
AK0001089514	Holland America Princess Alaska - Yakom	Registered	5015 Business Park Blvd., Suite 400 Anchorage AK 99503	DIESEL MECHANIC
AK0017-AK-69477	Peak Oilfield Service Company - Bristol Bay Industrial	Registered	1221 East 71st Avenue Anchorage AK 99518	DIESEL MECHANIC
AK0001020656	RT Trucking, LLC	Registered	11134 June Avenue Circle Eagle River AK 99577	ELECTRICIAN
AK0017-AK-469	907 Electric	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	ELECTRICIAN
AK000900008	ARC of Alaska, Inc.	Registered	P.O. Box 1761 Seward AK 99664	ELECTRICIAN
AK0001087586	Acce Electric & General Trucks, LLC	Registered	P.O. Box 7601 Nikiski AK 99635	ELECTRICIAN
AK0001467734	Agape Electric	Registered	P.O. Box 7601 Nikiski AK 99635	ELECTRICIAN
AK000167701	Agape Electric	Registered	1580 B ST ANCHORAGE AK 99518	ELECTRICIAN
AK000780015	ALASKA JOINT ELECTRICAL APPRENTICESHIP & TRAINING TRUST	Registered	4500 Diplomacy Drive, Suite 454 Anchorage AK 99508	ELECTRICIAN
AK000113542	Alaska Native Tribal Health Consortium, Division of Environmental Health & Engineering	Registered	39535 Fox Trail Road Soldotna AK 99669	ELECTRICIAN
AK000102776	Alaska's Women	Registered	P.O. Box 385 Umalaska AK 99585	ELECTRICIAN
AK0001467920	Ala-Wa, Inc.	Registered	13901 East Moyer Buell Court Palmer AK 99645	ELECTRICIAN
AK0000080238	Alpine Electric	Registered	3400 International Street Fairbanks AK 99701	ELECTRICIAN
AK0001040033	ANCHOR ELECTRIC	Registered	5362 COMMERCIAL DRIVE JUNEAU AK 99801	ELECTRICIAN
AK0001157693	Anderson Brothers Electric, LLC	Registered	16000 Ocean View Drive Juneau AK 99801	ELECTRICIAN
AK0019-AK-7630	Artic For Electric, LLC	Registered	3251 Eastwind Court Anchorage AK 99516	ELECTRICIAN
AK0001060013	AIKE BAY ELECTRIC	Registered	P.O. BOX 210194 AIKE BAY AK 99821	ELECTRICIAN
AK0001040025	BEAR ELECTRIC, INCORPORATED	Registered	2008 Perline Drive FAIRBANKS AK 99709	ELECTRICIAN
AK0019-AK-7428	Bering Straits Development Company	Registered	P.O. Box 1008 Nome AK 99762	ELECTRICIAN
AK0001469115	Boothell Electric, LLC	Registered	P.O. Box 871301 Wasilla AK 99687	ELECTRICIAN
AK000108401	Bridwell, Incorporated	Registered	13425 Avon Street ANCHORAGE AK 99516	ELECTRICIAN
AK0000080231	Burns Electric, LLC	Registered	P.O. Box 65 Wrangell AK 99929	ELECTRICIAN
AK000135727	Cable Maintenance	Registered	1295 Aloha Street North Pole AK 99705	ELECTRICIAN
AK000146732	Channel Electric, LLC	Registered	22936 Whispering Birch Drive Chugik AK 99567	ELECTRICIAN
AK001050009	CITY & BOROUGHS OF SITKA, ENVIRONMENTAL DEPT.	Registered	1155 COPPER RIDGE LANE KETCHIKAN AK 99901	ELECTRICIAN
AK0000060038	CNS, Inc.	Registered	100 LINCOLN STREET SITKA AK 99835	ELECTRICIAN
AK0001080011	DMS Electric, LLC	Registered	1285 Overhill Drive Fairbanks AK 99709	ELECTRICIAN
AK002179210	Edeline Building and Supply	Registered	18007 Stillwater Drive Eagle River AK 99677	ELECTRICIAN
AK0001080016	Encont Electric, LLC	Registered	35775 Walker Street North Soldotna AK 99669	ELECTRICIAN
AK000147686	Evans Electric	Registered	56013 Street Anchorage AK 99518	ELECTRICIAN
AK000108317	Facility Contractors, LLC	Registered	P.O. Box 1243 Kotzebue AK 99732	ELECTRICIAN
AK000138004	Frontier Electrical Services, LLC	Registered	P.O. Box 208 Cordova AK 99574	ELECTRICIAN
AK0001118395	Park Electric, Incorporated	Registered	P.O. Box 2080 Drive, Suite A Anchorage AK 99507	ELECTRICIAN
AK0001080013	GC Construction, Inc.	Registered	P.O. Box 13300 Fairbanks AK 99701	ELECTRICIAN
AK0001347093	GE Co. or GE	Registered	P.O. Box 5440 North Anchorage AK 99511	ELECTRICIAN
AK0001157266	H&S Construction, Incorporated	Registered	38090 5440 North Anchorage AK 99511	ELECTRICIAN
AK000091957	H&S Construction, Incorporated	Registered	38090 5440 North Anchorage AK 99511	ELECTRICIAN
AK0017-AK-68850	H&S Construction, Incorporated	Registered	P.O. Box 32109 Stevens Village AK 99672	ELECTRICIAN
AK000091957	H&S Construction, Incorporated	Registered	P.O. Box 439 Seward AK 99664	ELECTRICIAN
AK0019-AK-70306	Huffer Electric, Inc.	Registered	P.O. Box 2220 Soldotna AK 99669	ELECTRICIAN
AK0001070010	ICE SERVICES, INCORPORATED	Registered	2606 C STREET, SUITE 2B ANCHORAGE AK 99503	ELECTRICIAN
AK0001091697	Icicle Seafoods, Incorporated	Registered	411 N. Nordic Drive Petersburg AK 99833	ELECTRICIAN
AK000060009	INLET ELECTRICAL CONTRACTORS, LLC	Registered	P.O. BOX 202109 ANCHORAGE AK 99520	ELECTRICIAN
AK000158001	Integrated Communication Designs, Inc.	Registered	33055 Reon Lane Soldotna AK 99669	ELECTRICIAN
AK000125893	Integrity Electric, Inc.	Registered		ELECTRICIAN

ANCHORAGE SCHOOL DISTRICT'S
LIST OF
ALASKAN FEDERALLY REGISTERED APPRENTICESHIP PROGRAMS

Program Number	Program Name	Program Status	Program Address	Occupation Title
A000109422	Intelligent Design, LLC	Registered	11741 Timberline Drive Anchorage AK 99515	ELECTRICIAN
A0001070022	INTELECTRIC, INCORPORATED	Registered	P.O. BOX 3123 SOLDOTNA AK 99669	ELECTRICIAN
A0001060015	Katowak Holdings	Registered	2000 E. 88TH AVENUE ANCHORAGE AK 99507	ELECTRICIAN
A0001135729	KO Electric, LLC	Registered	P.O. Box 3556 Homer AK 99603	ELECTRICIAN
A0001125337	Laker Electric, Incorporated	Registered	11901 Industry Way Anchorage AK 99511	ELECTRICIAN
A0001127988	Luxwire Electric, LLC	Registered	1354 Topway Way A Kenai AK 99611	ELECTRICIAN
A0001135718	Madow Electric	Suspended	P.O. Box 2226 Seward AK 99664	ELECTRICIAN
2018-AK-70830	Marline Electric	Registered	P.O. Box 212602 Anchorage AK 99521	ELECTRICIAN
2019-AK-73263	Marathon Electric, LLC	Registered	P.O. Box 927 Seward AK 99664	ELECTRICIAN
A0001147461	Mark IV Enterprises	Registered	951 E. Crowside Drive, #9 Wasilla AK 99654	ELECTRICIAN
A000070010	MAT-SU MECHANICAL, INC.	Registered	1265 EAST LOLLY CIRCLE WASILLA AK 99664	ELECTRICIAN
2019-AK-73045	Mattings Electric, LLC	Registered	P.O. Box 788 Palmerburg AK 99833	ELECTRICIAN
A000990007	MIDNIGHT SUN ELECTRIC	Registered	267 West Rockwell Avenue SOLDOTNA AK 99669	ELECTRICIAN
A0001060018	MIRANDA ELECTRIC, INCORPORATED	Registered	P.O. Box 50031 North Pole AK 99705	ELECTRICIAN
A000146594	Morse Construction	Registered	7362 West Parks Highway, #189 Wasilla AK 99623	ELECTRICIAN
2017-AK-69670	New Hope Apprenticeship Training	Registered	2471 West Trilline Drive Wasilla AK 99654	ELECTRICIAN
A0001125617	Nordic Electric, LLC	Registered	806 S. Nordic Drive Petersburg AK 99833	ELECTRICIAN
A0001020016	North Wire, LLC	Registered	1120 E. Huffman Road, Suite 24, Box 695 Anchorage AK 99515	ELECTRICIAN
2017-AK-45477	Peak Offield Service Company - Bristol Bay Industrial	Registered	5015 Business Park Blvd., Suite 400 Anchorage AK 99508	ELECTRICIAN
A000060013	PITCHER ELECTRIC, INC.	Registered	P.O. BOX 877871 WASILLA AK 99687	ELECTRICIAN
A0001125710	Power & Light, Incorporated	Registered	7721 School Street, Suite 1 Anchorage AK 99518	ELECTRICIAN
A0001125704	Premier Electric	Registered	P.O. Box 874362 Wasilla AK 99687	ELECTRICIAN
A0001131407	Prism Design & Construction	Registered	P.O. Box 870162 Wasilla AK 99684	ELECTRICIAN
A0001135319	Puffin Electric, Inc.	Registered	3808 Ben Walker Lane Homer AK 99603	ELECTRICIAN
A000080232	Ray Electric, Inc.	Registered	P.O. Box 55007 North Pole AK 99705	ELECTRICIAN
2018-AK-70371	Renewable Energy Systems	Registered	1698 Airport Way Fairbanks AK 99701	ELECTRICIAN
A0001040007	RISING SON ELECTRIC SERVICES, LLC	Registered	36784 Ekina Lake Road Chugiak AK 99567	ELECTRICIAN
A000113405	Safe-T-Way Electric, Incorporated	Registered	6208 Mackay Street Anchorage AK 99518	ELECTRICIAN
2019-AK-71765	Salmon River Electric	Registered	P.O. Box 118 Gustavus AK 99826	ELECTRICIAN
A000050009	STMA ELECTRIC COMPANY	Registered	1314 SAWMILL CREEK ROAD STMA AK 99835	ELECTRICIAN
A0001103397	Soudough Specialty Contractors	Registered	145 Shady Lane, #4 Soldotna AK 99669	ELECTRICIAN
A0001157697	Spectrum Services	Registered	35867 Driftheater Street Kenai AK 99611	ELECTRICIAN
2017-AK-49038	Stevens Electric	Registered	9650 Muskeget Circle Anchorage AK 99507	ELECTRICIAN
2018-AK-70651	SUNNER ELECTRICAL ENTERPRISE, LLC	Registered	2741 Enners Cutoff Road Juneau AK 99801	ELECTRICIAN
A0001070008	TDX Power Services, LLC	Registered	6871 Hollywood Road Wasilla AK 99654	ELECTRICIAN
A000106809	TEC PRO, LTD.	Registered	815 East 82nd Avenue, Suite 200 Anchorage AK 99518	ELECTRICIAN
A0001010001	Tield Electric, LLC	Registered	816 Whitney Road Anchorage AK 99501	ELECTRICIAN
A000080228	The Electrician, LLC	Registered	1760 Abbott Road Anchorage AK 99507	ELECTRICIAN
A000103508	Thomas and Sons Electric	Registered	607 Old Steese Highway, Suite B, PMB 402 Fairbanks AK 99701	ELECTRICIAN
A0001147688	Trident Seafoods Corporation	Registered	P.O. Box 995 Craig AK 99921	ELECTRICIAN
A0001147688	Trinity Electric, LLC	Registered	P.O. Box 220427 Anchorage AK 99522	ELECTRICIAN
A0001107706	TS Construction, Incorporated	Registered	801 E. 82nd Avenue, B-14 Anchorage AK 99518	ELECTRICIAN
A000032469	Vannoy Electric	Registered	3250 Cool City Drive Fairbanks AK 99701	ELECTRICIAN
A000035017	WESTERN POWER ENGINEERING	Registered	5007 W. Neiland Rd. Wasilla AK 99623	ELECTRICIAN
A0001030009	WESTWARD SEAFOODS, INCORPORATED	Registered	P.O. BOX 320557 DUTCH HARBOR AK 99832	ELECTRICIAN
A000112285	Will Curtis	Registered	P.O. BOX 320608 DUTCH HARBOR AK 99832	ELECTRICIAN
A0001030002	WOODMORTH ELECTRIC	Registered	1465 Richardson Hwy Valdez AK 99686	ELECTRICIAN
A000030009	YUKON-KODIAK WIN DELTA APPRENTICESHIP PROGRAM	Registered	1200 QUEEN'S CIRCLE HOMER AK 99603	ELECTRICIAN
A000030009	Zap Electric, Inc.	Registered	P.O. BOX 869 BETHEL AK 99559	ELECTRICIAN
A0001030012	Zap Electric, Inc.	Registered	3100 Denway Street, Suite 2 Fairbanks AK 99701	ELECTRICIAN
A0001030003	ABC of Alaska, Inc.	Registered	815 North Super St Anchorage AK 99501	ELECTRICIAN
A0001030004	INTERNATIONAL UNION OF EVIATOR CONSTRUCTORS LOCAL 19 JAC	Registered	3284 15th Avenue NW SEATTLE WA 98119	ELECTRICIAN
A0001030005	GRAND PROSPECT CORPORATION	Suspended	P.O. BOX 520658 BIG LAKE AK 99653	ELECTRICIAN
A000040001	International Union of Painters and Allied Trades Local 1850 JATC	Registered	5821 Arctic Boulevard, Unit B ANCHORAGE AK 99518	ELECTRICIAN
A000145318	The Great Alaskan Flooring, Inc.	Registered	2017 Mill Bay Road Kodiak AK 99615	ELECTRICIAN
A0000500009	ABC of Alaska, Inc.	Registered	301 Arctic Ship Avenue, Suite 100 ANCHORAGE AK 99518	ELECTRICIAN
A000040001	International Union of Painters and Allied Trades Local 1850 JATC	Registered	5821 Arctic Boulevard, Unit B ANCHORAGE AK 99518	ELECTRICIAN
A0000500009	ABC of Alaska, Inc.	Registered	301 Arctic Ship Avenue, Suite 100 ANCHORAGE AK 99518	ELECTRICIAN
A0000500001	ALASKA SCSE SHEET METAL WORKERS JATC	Registered	1307 E. 25TH AVENUE, M ANCHORAGE AK 99518	ELECTRICIAN
A000040002	ANCHORAGE ALASKA AREA PIPE TRADERS LOCAL #867 JATC	Registered	617 WEST POTTER DRIVE ANCHORAGE AK 99518	ELECTRICIAN
A0000700004	ALASKA OPERATING ENGINEERS/DMOYEYS TRAINING TRUST	Registered	P.O. BOX 088 PALMER AK 99645	ELECTRICIAN
A0001910012	TECK ALASKA, INC.	Registered	1305 LAKESHORE DR. BUILDING A, SITE 101 ANCHORAGE AK 99518	ELECTRICIAN
A0000900009	ABC of Alaska, Inc.	Registered	301 Arctic Ship Avenue, Suite 100 ANCHORAGE AK 99518	ELECTRICIAN
A0000710001	AK HEAT & FROST INSULATORS & ALLIED WORKERS JATC	Registered	P.O. Box 208212 Anchorage AK 99520	ELECTRICIAN
A0000310003	Alaska Industrial Insulation & Fireproofing, Inc.	Registered	2505 Barrow Street Anchorage AK 99503	ELECTRICIAN
A0000500001	Alaska Carpenter Training Trust	Registered	8751 King Street Anchorage AK 99515	ELECTRICIAN
A0000500003	ABC of Alaska, Inc.	Registered	301 Arctic Ship Avenue, Suite 100 ANCHORAGE AK 99518	ELECTRICIAN

ANCHORAGE SCHOOL DISTRICT'S
LIST OF
ALASKA FEDERALLY REGISTERED APPRENTICESHIP PROGRAMS

Program Number	Program Name	Program Status	Address	Occupation Title
AK00070015	ALASKA JOINT ELECTRICAL APPRENTICESHIP & TRAINING TRUST	Registered	5800 B ST ANCHORAGE AK 99518	LINE MAINTAINER (Alternate Title: Line Worker)
AK00070004	ALASKA OPERATING ENGINEERS/EMPLOYERS TRAINING TRUST	Registered	P.O. BOX 088 PALMER AK 99645	LINE MAINTAINER (Alternate Title: Line Worker)
AK00100080	Alaska Power & Telephone	Registered	P.O. Box 34195 Juneau AK 99803	LINE MAINTAINER (Alternate Title: Line Worker)
AK00040002	Alaska Village Electric Cooperative, Inc.	Registered	4381 Eagle Street Anchorage AK 99503	LINE MAINTAINER (Alternate Title: Line Worker)
AK00087008	CITY OF BOROUGH OF SITKA - ELECTRICAL DEPARTMENT	Registered	105 JARVIS STREET SITKA AK 99835	LINE MAINTAINER (Alternate Title: Line Worker)
AK000135005	CITY OF WRANGELL-WRANGELL MUNICIPAL LIGHT & POWER	Registered	P.O. Box 610 Wrangell AK 99693	LINE MAINTAINER (Alternate Title: Line Worker)
AK001060005	CITY OF WRANGELL-WRANGELL MUNICIPAL LIGHT & POWER	Registered	1606 C STREET, SUITE 2B ANCHORAGE AK 99503	LINE MAINTAINER (Alternate Title: Line Worker)
AK001070010	CITY SERVICES, INCORPORATED	Registered	P.O. Box 330 Dillingham AK 99723	LINE MAINTAINER (Alternate Title: Line Worker)
AK001080078	North Slope Borough Power & Light	Registered	P.O. Box 330 Dillingham AK 99723	LINE MAINTAINER (Alternate Title: Line Worker)
AK001147462	Nushagak Electric & Telephone Cooperative, Inc.	Registered	P.O. BOX 088 PALMER AK 99645	LINE MAINTAINER (Alternate Title: Line Worker)
AK00070004	ALASKA OPERATING ENGINEERS/EMPLOYERS TRAINING TRUST	Registered	5800 B ST ANCHORAGE AK 99518	LINE MAINTAINER (Alternate Title: Line Worker)
AK000700015	ALASKA JOINT ELECTRICAL APPRENTICESHIP & TRAINING TRUST	Registered	1413 HYDER ST ANCHORAGE AK 99518	LINE MAINTAINER (Alternate Title: Line Worker)
AK000400006	ALASKA WORKS PARTNERSHIP, INC.	Registered	P.O. Box 877790 Wasilla AK 99687	LINE MAINTAINER (Alternate Title: Line Worker)
AK000125893	Goose Creek Correctional Center	Registered	9101 Hestenberg Road Eagle River AK 99577	LINE MAINTAINER (Alternate Title: Line Worker)
AK000108006	Hiland Mountain Correctional Center	Registered	P.O. BOX 2109 SEWARD AK 99664	LINE MAINTAINER (Alternate Title: Line Worker)
AK001900006	SPRING CREEK CORRECTIONAL CENTER	Registered	BLDG 10, CHUGACH AVENUE KENAI AK 99611	LINE MAINTAINER (Alternate Title: Line Worker)
AK001900010	Wildwood Correctional Center	Registered	3105 LAKESHORE DR. BUILDING A, STE 101 ANCHORAGE AK 99515	LINE MAINTAINER (Alternate Title: Line Worker)
AK001900012	TECK ALASKA, INC.	Registered	8751 King Street Anchorage AK 99515	LINE MAINTAINER (Alternate Title: Line Worker)
AK000500001	Alaska Carpenters Training Trust	Registered	3105 LAKESHORE DR. BUILDING A, STE 101 ANCHORAGE AK 99515	MECHANIC, INDUSTRIAL TRUCK
AK001900012	TECK ALASKA, INC.	Registered	3105 LAKESHORE DR. BUILDING A, STE 101 ANCHORAGE AK 99515	MECHANIC, INDUSTRIAL TRUCK
AK000900003	ABC of Alaska, Inc.	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000700004	ALASKA OPERATING ENGINEERS/EMPLOYERS TRAINING TRUST	Registered	P.O. BOX 088 PALMER AK 99645	MECHANIC, INDUSTRIAL TRUCK
AK001147691	Wolverine Supply, Inc.	Registered	5099 E. Blue Lupine Drive Wasilla AK 99654	MECHANIC, INDUSTRIAL TRUCK
AK000900003	International Union of Painters and Allied Trades Local 1859 IATC	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000400001	ABC of Alaska, Inc.	Registered	5821 Arctic Slope Boulevard, Unit B Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000900003	ANCHORAGE ALASKA AREA PIPE TRADES LOCAL #867 IATC	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK001510002	Fairbanks Area Plumbers & Pipefitters IATC	Registered	617 WEST POTTER DRIVE ANCHORAGE AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000600001	ANCHORAGE ALASKA AREA PIPE TRADES LOCAL #867 IATC	Registered	1978 BURGESS AVENUE FAIRBANKS AK 99709	MECHANIC, INDUSTRIAL TRUCK
AK000700017	Alaska Towel Trades IATC	Registered	1751 ANNA STREET JUNEAU AK 99801	MECHANIC, INDUSTRIAL TRUCK
AK001082770	907 Heating and Plumbing	Registered	825 East 8th Avenue, Suite 10 Anchorage AK 99501	MECHANIC, INDUSTRIAL TRUCK
AK000900003	ABC of Alaska, Inc.	Registered	P.O. Box 22032 Anchorage AK 99522	MECHANIC, INDUSTRIAL TRUCK
AK001082746	Ace Heating, Inc.	Registered	301 Arctic Slope Avenue, Suite 100 Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000109507	AI Fish Plumbing, LLC	Registered	1805 Gregory Road Anchorage AK 99516	MECHANIC, INDUSTRIAL TRUCK
AK000125896	Alaska Clearwater Mechanical, LLC	Registered	P.O. Box 709 Willow AK 99688	MECHANIC, INDUSTRIAL TRUCK
AK000113542	Alaska Native Tribal Health Consortium, Division of Environmental Health & Engineering	Registered	4500 Diplomacy Drive, Suite 454 Anchorage AK 99508	MECHANIC, INDUSTRIAL TRUCK
AK000109507	ALASKA PLUMBING & HEATING	Registered	2780 N. Heathermay Circle Wasilla AK 99654	MECHANIC, INDUSTRIAL TRUCK
AK000109393	AI American Plumbing & Heating	Registered	P.O. Box 20740 Kule Bay AK 99821	MECHANIC, INDUSTRIAL TRUCK
AK000115908	AI Star Plumbing & Heating, LLC	Registered	9509 Antler Way Juneau AK 99801	MECHANIC, INDUSTRIAL TRUCK
AK001070007	ALWAYS ON CALL MOUNTAIN MECHANICAL CORPORATION	Registered	13320 Bearpaw Street Anchorage AK 99516	MECHANIC, INDUSTRIAL TRUCK
AK000157999	Amresco, Inc.	Registered	8427 MENTHA STREET ANCHORAGE AK 99507	MECHANIC, INDUSTRIAL TRUCK
AK000400002	ANCHORAGE ALASKA AREA PIPE TRADES LOCAL #867 IATC	Registered	6443 Brayton Drive Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000700016	ANCHORAGE PLUMBING & HEATING, INC.	Registered	617 WEST POTTER DRIVE ANCHORAGE AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK001030015	APD PLUMBING & HEATING SERVICES, LLC	Registered	7640 King Street Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000501112	Arctic Chain Plumbing & Heating, Inc.	Registered	13081 E. Jessica Ann Street Seward AK 99674	MECHANIC, INDUSTRIAL TRUCK
2017-AK-4854	Arctic Plumbing & Heating, LLC	Registered	1200 East 7th Avenue, Unit 1220 Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
2019-AK-7230	Bradley Mechanical Company	Registered	2225 Richardson Highway, Suite #2 North Pole AK 99705	MECHANIC, INDUSTRIAL TRUCK
AK00145912	Blades Mechanical	Registered	2225 Richardson Highway North Pole AK 99705	MECHANIC, INDUSTRIAL TRUCK
AK000145911	Bolton Plumbing & Heating, Inc.	Registered	148 Hillcrest Avenue, #2 Seldovia AK 99689	MECHANIC, INDUSTRIAL TRUCK
AK000135713	BOYMAN MECHANICAL CONTRACTORS, INC.	Registered	1800 Uniontown Drive Palmer AK 99645	MECHANIC, INDUSTRIAL TRUCK
AK000900237	Circle Mechanical Incorporated	Registered	311701 Oy Drive ANCHORAGE AK 99513	MECHANIC, INDUSTRIAL TRUCK
AK000135717	D.H. Plumbing & Heating, Incorporated	Registered	3137 Seward Street Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000107700	Dawson Construction, Incorporated	Registered	7741 King Street Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000147690	DEVAL MECHANICAL, INC.	Registered	64525 OTTAWA AVE Homer AK 99803	MECHANIC, INDUSTRIAL TRUCK
AK001870004	Discount Mechanical, LLC	Registered	4220 Camille Drive West Anchorage AK 99501	MECHANIC, INDUSTRIAL TRUCK
AK001060005	Encore Mechanical, Inc.	Registered	505 RILEY COURT FAIRBANKS AK 99701	MECHANIC, INDUSTRIAL TRUCK
AK001040029	Enco Mechanical, Inc.	Registered	P.O. Box 235594 Anchorage AK 99523	MECHANIC, INDUSTRIAL TRUCK
AK001157276	Extreme Heating & Air, Incorporated	Registered	1208 Lakeshore Drive Homer AK 99603	MECHANIC, INDUSTRIAL TRUCK
AK000145926	Fairbanks Area Plumbers & Pipefitters IATC	Registered	P.O. BOX 1788 PALMER AK 99645	MECHANIC, INDUSTRIAL TRUCK
AK000125892	Fedor's Plumbing & Heating, LLC	Registered	16905 Farm Avenue Eagle River AK 99577	MECHANIC, INDUSTRIAL TRUCK
AK000125249	Funk Services	Registered	5302 Cordova Street Anchorage AK 99518	MECHANIC, INDUSTRIAL TRUCK
AK000135912	H and M Plumbing & Heating, Inc.	Registered	P.O. Box 672188 Chugiak AK 99567	MECHANIC, INDUSTRIAL TRUCK
AK000400007	HARDORCK PLUMBING AND HEATING, LLC	Registered	P.O. Box 61337 Fairbanks AK 99706	MECHANIC, INDUSTRIAL TRUCK
AK001050004	HEATCO, LLC	Registered	P.O. Box 222225 Anchorage AK 99522	MECHANIC, INDUSTRIAL TRUCK
2019-AK-72458	Homer Plumbing and Heating	Registered	4740 E. FATIC DRIVE WASILLA AK 99654	MECHANIC, INDUSTRIAL TRUCK
		Registered	17141 N. EAGLE RIVER LOOP ROAD EAGLE RIVER AK 99577	MECHANIC, INDUSTRIAL TRUCK
		Registered	581 Mountain View Drive Homer AK 99603	MECHANIC, INDUSTRIAL TRUCK

ALASKAN FEDERALLY REGISTERED APPRENTICESHIP PROGRAMS

Program Number	Program Name	Program Status	Address	Occupation Title
AK000150005	Hydram Mechanical International Corporation	Registered	137 East 4th Avenue, Suite 1 Anchorage AK 99501	PLUMBER
AK000150005	ICE SERVICES, INCORPORATED	Registered	2606 C STREET, SUITE 2B ANCHORAGE AK 99503	PLUMBER
AK0001070010	ICE SERVICES, INCORPORATED	Registered	3822A Garret Street Juneau AK 99801	PLUMBER
AK000168010	Intelligent Design, LLC	Registered	11741 Timberlane Drive Anchorage AK 99515	PLUMBER
AK0001103402	IQIA Enterprises, dba Runstrom Plumbing & Heating	Registered	HC Box 6182 Talluena AK 99676	PLUMBER
AK0001184290	IGH Plumbing & Heating, Incorporated	Registered	P.O. Box 3385 Palmer AK 99645	PLUMBER
AK0001081636	John White's Plumbing & Heating	Registered	5327 Kenai Spur Highway Kenai AK 99611	PLUMBER
AK0001459772	John's Heating Service, Inc.	Registered	1311 Mill Bay Road Kodiak AK 99615	PLUMBER
AK0000926560	JOURNEYMAN PLUMBING & HEATING, INC.	Registered	51315 SEA QUEST DRIVE KENAI AK 99611	PLUMBER
AK0000600005	JOURNEYMAN PLUMBING & HEATING, INC.	Registered	17651 ANKA STREET JUNEAU AK 99801	PLUMBER
AK000660004	JUNEAU PLUMBERS IATC	Registered	26547 S. Coho Loop Kodiak AK 99610	PLUMBER
AK0001459607	Kaialof Plumbing & Heating	Registered	Box 2132 Cordova AK 99574	PLUMBER
AK0001157698	Klivi Mechanical	Registered	4915 W. 24TH AVENUE ANCHORAGE AK 99502	PLUMBER
AK0001050012	KNIX PLUMBING & HEATING	Registered	P.O. BOX 4148 KODIAK AK 99615	PLUMBER
AK0001147687	LARRY'S PLUMBING & HEATING	Registered	2531 Barrett Avenue Juneau AK 99801	PLUMBER
AK0000080234	Lewis Mechanical, Inc.	Registered	13240 View Heights Way Anchorage AK 99516	PLUMBER
AK0000080224	LARRY'S PLUMBING & HEATING, INC.	Registered	34360 Business Park Fortage Road SOLDOTNA AK 99669	PLUMBER
AK000070010	M&J PLUMBING & HEATING, INC.	Registered	1265 EAST LOLLY CIRCLE WASILLA AK 99654	PLUMBER
AK000070010	MAT-SU MECHANICAL, INC.	Registered	P.O. Box 73441 Fairbanks AK 99707	PLUMBER
AK0001458689	Monkey Wrench Mechanical	Registered	1801 East Dowling Road Anchorage AK 99507	PLUMBER
AK0001113541	Moore Heating & Air Conditioning	Registered	875 Old Richardson Highway FAIRBANKS AK 99701	PLUMBER
AK0001114890	Mr. Rooter Plumbing of Fairbanks	Registered	2207 E. Tudor Road, #40 Anchorage AK 99507	PLUMBER
AK0001091696	North Country Stoves, Incorporated	Registered	P.O. Box 659 Haines AK 99827	PLUMBER
AK0001459328	Pacific Rim Mechanical, LLC	Registered	3400 MACARTHUR STREET FAIRBANKS AK 99701	PLUMBER
AK0001459328	PARAGON PLUMBING & HEATING, INCORPORATED	Registered	P.O. BOX 1806 Palmer AK 99645	PLUMBER
AK0000000005	PARNHURST MECHANICAL	Registered	8301 SCHOON STREET ANCHORAGE AK 99518	PLUMBER
AK0001050006	PARTUSO PLUMBING & HEATING	Registered	P.O. BOX 33051 JUNEAU AK 99803	PLUMBER
AK0001060010	PIASANTIS PLUMBING & HEATING	Registered	P.O. BOX 28111 Lemeau AK 99803	PLUMBER
AK0001167705	Pollard Construction	Suspended	1500 Alaska Way Fairbanks AK 99709	PLUMBER
AK0000929200	Portwilde Plumbing and Heating, Inc.	Registered	2011 Millbay Road, #2 Kodiak AK 99615	PLUMBER
AK0001103394	Premier Mechanical, LLC	Registered	11729 Old Glen Highway, Suite 107 Eagle River AK 99577	PLUMBER
AK0001167700	Red Hot Mechanical, Incorporated	Registered	865 6th Avenue Fairbanks AK 99701	PLUMBER
AK0001145735	River City Plumbing & Heating	Registered	P.O. Box 874415 Wasilla AK 99687	PLUMBER
AK0001177707	Rock Solid Plumbing & Heating	Registered	86 Garland Court Ketchikan AK 99901	PLUMBER
AK000177707	S.E. Plumbing, Incorporated	Registered	P.O. Box 72789 Fairbanks AK 99707	PLUMBER
AK000168008	Scott's Heating & Plumbing Services, Inc.	Registered	P.O. Box 3132 Kodiak AK 99615	PLUMBER
AK0000080237	SCOTT'S HEATING & PLUMBING SERVICES, INC.	Registered	22750 MCMAHON DRIVE CHUGIAK AK 99667	PLUMBER
AK0001040017	STATEWIDE MECHANICAL, LLC	Registered	P.O. Box 561 Katikof AK 99610	PLUMBER
AK0000081232	Sundance Construction Company, Inc.	Registered	P.O. Box 32409 Fairbanks AK 99708	PLUMBER
AK0000926561	Superior Mechanical, Inc.	Registered	730 W. 88th Avenue Anchorage AK 99515	PLUMBER
AK0001471943	Tauman Mechanical Plumbing & Heating, LLC	Registered	6673 E TEXAL DRIVE WASILLA AK 99654	PLUMBER
AK0001070021	VALLEY MECHANICAL CONTRACTING, INCORPORATED	Registered	P.O. Box 1974 Soldotna AK 99669	PLUMBER
AK0001125707	Waternorks Plumbing & Heating	Registered	P.O. Box 321118 Big Lake AK 99652	PLUMBER
AK0001371000	WolfPack Mechanical, LLC	Registered	P.O. BOX 983 BETHEL AK 99559	PLUMBER
AK0000930009	YUKON-KUSKOKWIM DELTA APPRENTICESHIP PROGRAM	Registered	615 Steadman Street Ketchikan AK 99901	RESIDENTIAL CARPENTER
AK0000956564	Ketchikan Indian Community	Registered	P.O. Box 539 Ward Cove AK 99901	RESIDENTIAL CARPENTER
AK0001113537	Nicholas Construction, LLC	Registered	P.O. Box 128 Emmonak AK 99981	RESIDENTIAL CARPENTER
AK0001135904	Tydon River Towing, LLC	Registered	15435 CROSSON AVENUE FAIRBANKS AK 99701	RESIDENTIAL WIREMAN
AK0000950034	A & K ELECTRIC	Registered	8600 157 ANCHORAGE AK 99518	RESIDENTIAL WIREMAN
AK0000700015	ALASKA ZINT ELECTRICAL APPRENTICESHIP & TRAINING TRUST	Registered	P.O. Box 340441 Fairbanks AK 99708	RESIDENTIAL WIREMAN
AK0001459217	Big M Electric, LLC	Registered	P.O. Box 4357 Palmer AK 99645	RESIDENTIAL WIREMAN
AK0001035313	Brated Bay Housing Authority	Registered	P.O. Box 87570 Wasilla AK 99687	RESIDENTIAL WIREMAN
AK0001035907	Dependable Services	Registered	2155 North Dimore Court Wasilla AK 99654	RESIDENTIAL WIREMAN
AK0001035911	Edgmont Homes	Registered	385 Aspen Avenue Juneau AK 99801	RESIDENTIAL WIREMAN
AK0001035911	Genor Electric Company, LLC	Registered	285 27TH AVENUE FAIRBANKS AK 99701	RESIDENTIAL WIREMAN
AK0001457333	WATER REGION HOUSING AUTHORITY	Registered	1524 Smith Highway Homer AK 99603	RESIDENTIAL WIREMAN
AK0001035913	WATER REGION HOUSING AUTHORITY	Registered	P.O. Box 877055 Wasilla AK 99687	RESIDENTIAL WIREMAN
AK0001035913	WATER REGION HOUSING AUTHORITY	Registered	P.O. BOX 87701 WASILLA AK 99687	RESIDENTIAL WIREMAN
AK0001040007	BIGNE SON ELECTRIC SERVICES, LLC	Registered	16784 Elmira Lake Road Chugach AK 99567	RESIDENTIAL WIREMAN
AK0001103400	Solid Ground Electric	Registered	13911 Shagdo Drive Eagle River AK 99577	RESIDENTIAL WIREMAN
AK0000950003	Alaska Copiers Training Trust	Registered	8761 Hwy Street Anchorage AK 99515	SCAFFOLD DIRECTOR
AK0000950003	ARC of Alaska, Inc.	Registered	301 Arctic Slope Avenue, Suite 100 ANCHORAGE AK 99518	SHEET METAL WORKER
AK0000900001	ALASKA 12/16 SHEET METAL WORKERS IATC	Registered	1807 E 73TH AVENUE, 44 ANCHORAGE AK 99518	SHEET METAL WORKER
AK0001107004	DONAL MECHANICAL, INC.	Registered	995 RILEY COURT FAIRBANKS AK 99701	SHEET METAL WORKER
AK0001500001	FAIRBANKS AREA SHEET METAL WORKERS IATC	Registered	6673 E 1st Al Drive WASILLA AK 99654	SHEET METAL WORKER
AK0001081987	Valley Mechanical Contractors, Inc.	Registered	6673 E 1st Al Drive WASILLA AK 99654	SHEET METAL WORKER

ANCHORAGE SCHOOL DISTRICT'S

LIST OF

ALASKAN FEDERALLY REGISTERED APPRENTICESHIP PROGRAMS

Program Number	Program Name	Program Status	Address	Occupation Title
AK000900003	ABC of Alaska, Inc.	Registered	301 Arctic Slope Avenue, Suite 100 ANCHORAGE AK 99518	SPRINKLER FITTER (Excluding Title: Pipe Fitter)
AK000400002	ANCHORAGE ALASKA AREA PIPE TRADERS LOCAL #867 IATC	Registered	6137 WEST POTTER DRIVE ANCHORAGE AK 99518	SPRINKLER FITTER (Excluding Title: Pipe Fitter)
AK001510002	Fairbanks Area Plumbers & Pipefitters IATC	Registered	11978 BURGESSE AVENUE FAIRBANKS AK 99709	SPRINKLER FITTER (Excluding Title: Pipe Fitter)
AK000700016	ALASKA BONNOMBERS IATC	Registered	81441 SCHOOL STREET ANCHORAGE AK 99518	STRUCTURAL STEEL WORKER (Alternative Titles: Ironworker or Structural Ironworker)
AK000400007	ALASKA TEAMSTER-EMLOYEES SERVICE TRAINING TRUST	Registered	520 East 34th Avenue, Suite 201 ANCHORAGE AK 99503	SURVIVOR ASSISTANT INSTRUMENT
AK000840001	ALASKA JOINT ELECTRICAL APPRENTICESHIP & TRAINING TRUST	Registered	5800 B STREET ANCHORAGE AK 99518	TREE TRIMMER (Line Clearance)
AK000000007	ALASKA TEAMSTER-EMPLOYEES SERVICE TRAINING TRUST	Registered	520 East 34th Avenue, Suite 201 ANCHORAGE AK 99503	TRUCK DRIVER, HEAVY
2017-NH-6881D	River Valley Workforce Institute, Inc.	Registered	325 Mount Support Road Lebanon NH 03766	WELDER, COMBINATION
AK001910012	TECH ALASKA, INC.	Registered	3105 JAMES SHORE DR., BUILDING A, STE 101 ANCHORAGE AK 99518	WELDER, COMBINATION

Multiple-employer apprenticeship sponsors.

**ANCHORAGE SCHOOL DISTRICT
APPRENTICE UTILIZATION FORM**

Project Name: _____

Solicitation Number: _____

Contractor: _____

Prime Contractors

1. Please list crafts/trades that will be used to complete this project and have Alaskan Federally Registered Apprenticeship programs.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Please list the apprentices and corresponding apprenticeship programs that will be used by the prime contractor to complete this project. If more space is needed, please attach supplemental sheets.

APPRENTICE'S NAME

APPRENTICESHIP PROGRAM

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Please list the subcontractors that will be used on the project.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. Please list the apprentices and corresponding apprenticeship programs that will be used by the subcontractors to complete this project. If more space is needed, please attach supplemental sheets.

APPRENTICE'S NAME	APPRENTICESHIP PROGRAM
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PENALTY TABLE

\$100,001 TO \$500,000

1ST NON-COMPLIANCE (30-DAY)	\$500.00	
2ND CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$750.00	
3RD 30-DAY CONSECUTIVE NON-COMPLIANCE	\$1,000.00	
4TH CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$1,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING
FURTHER CONSECUTIVE NON-COMPLIANCE EXCEEDING 4TH NON-COMPLIANCE (30-DAY)	\$1,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING

\$500,001 TO \$1,000,000

1ST NON-COMPLIANCE (30-DAY)	\$750.00	
2ND CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$1,500.00	
3RD CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$2,500.00	
4TH CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$5,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING
FURTHER CONSECUTIVE NON-COMPLIANCE EXCEEDING 4TH NON-COMPLIANCE (30-DAY)	\$5,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING

\$1,000,001 TO \$3,000,000

1ST NON-COMPLIANCE (30-DAY)	\$1,000.00	
2ND CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$2,500.00	
3RD CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$5,000.00	
4TH CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$7,500.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING
FURTHER CONSECUTIVE NON-COMPLIANCE EXCEEDING 4TH NON-COMPLIANCE (30-DAY)	\$7,500.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING

\$3,000,001 TO \$5,000,000

1ST NON-COMPLIANCE (30-DAY)	\$1,500.00	
2ND CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$3,000.00	
3RD CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$7,500.00	
4TH CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$10,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING
FURTHER CONSECUTIVE NON-COMPLIANCE EXCEEDING 4TH NON-COMPLIANCE (30-DAY)	\$10,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING

OVER \$5,000,000

1ST NON-COMPLIANCE (30-DAY)	\$2,500.00	
2ND CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$5,000.00	
3RD CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$8,000.00	
4TH CONSECUTIVE NON-COMPLIANCE (30-DAY)	\$10,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING
FURTHER CONSECUTIVE NON-COMPLIANCE EXCEEDING 4TH NON-COMPLIANCE (30-DAY)	\$10,000.00	AND FINDING OF NON-RESPONSIBILITY IN FUTURE BIDDING

END OF SECTION

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

Division 0
Section 00700

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

REFERENCE:

The General Conditions shall be GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA, bound herein.

SUPPLEMENTS:

Supplements may modify, change, delete, or add to these General Conditions. Where any article of the General Conditions is modified or any paragraph deleted, or any subparagraph or clause thereof is modified, or deleted by supplements, the unaltered provisions of such article, paragraph, subparagraph or clause shall remain in effect. The General Conditions and the Supplementary General Conditions are applicable to all of the Work under this Contract and shall apply to the Contractor and all Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors.

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ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 The following terms as used in this Contract are defined as follows:

"Architect / Engineer or A/E": The design consultant of the Owner.

"Construction Manager": Supervises the construction phase of construction projects for the Anchorage School District Facilities Department.

"Contract": The Agreement between Owner and Contractor and the referenced Contract Documents stated therein.

"Contractor": The person, firm, or corporation contractually responsible to the Owner to provide the services called for by this Contract. Such entity may also be referred to as Managing General Contractor, General Contractor, or Prime Contractor.

"Days": Calendar days unless otherwise noted.

"Direct Cost": A direct cost is any cost that can be identified specifically with a particular final cost objective, i.e., with this contract, or an item of extra work, or change order under the contract.

"Senior Director of Capital Planning & Construction": Manages the Operations of the Anchorage School District Capital Planning & Construction Department.

"Furnish": Supply and deliver to the project including the cost to supply and deliver.

"Indirect Cost": An indirect cost, collectively called overhead, is any cost not directly identified with a single, final cost objective, but identified with two or more final cost objectives or an intermediate cost objective.

"Install": Build into the Work, ready to use in a complete, finished, and operable system, including the cost to install.

"Owner": The Anchorage School District, its Anchorage School Board of Education, the Superintendent of the Anchorage School District, and its employees.

"Project Manager": The person designated by the Senior Director of Capital Planning & Construction as the Owner's representative for this Contract, responsible for the day-to-day coordination between the Owner and the Contractor.

"Provide": Furnish and install for a complete, finished, and operable system.

"Reasonable Cost": A cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred in a competitive market.

"Shop Drawings, Setting Drawings, Manufacturer's Printed Information and Submittal (collectively known as "Submittals")": The Contractor's information consisting of drawings, catalogs, illustrations, calculations, and other data delivered to the Owner for the purpose of assuring the Owner, prior to execution of that part of the Work, that the prescriptive element, component, subsystem, or service to be provided generally conforms with the

Contract. The Contractor is responsible to the Owner for the accuracy and completeness of the Submittals.

"Subcontractor": A person, firm, or entity who has a direct contract with the Contractor to perform any of the work.

"Work" or "Project": The finished product required by the Contract Documents together with the means and methods as determined, by the Contractor, to achieve the finished product.

1.1.2 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Owner-Contractor Agreement, the Drawings, the Project Manual, and all Addenda issued prior to and all Modifications issued after execution of the Contract. A Modification is (1) a directive for change in the work pursuant to Section 12.1.2 or (2) a change order pursuant to Section 12.2.6.

1.1.3 THE CONTRACT

The Contract is the sum of all the Contract Documents. This Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.2.

1.1.4 THE WORK

The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

1.1.5 THE PROJECT

The Project is the total construction, of which the Work performed under the Contract documents may be the whole or a part.

1.1.6 SCHOOL BOARD

Board of Education of the Anchorage School District, Anchorage, Alaska.

1.1.7 BIDDER

Any individual, firm, partnership, corporation or combination thereof, formally submitting a bid for the work contemplated, or any portion thereof, acting directly or through an authorized representative.

1.1.8 MUNICIPALITY

Municipality of Anchorage, Alaska.

1.1.9 PROPOSAL

1.1.9.1 BID PROPOSAL

The written proposal of the Bidder on the form furnished by the Owner for the Work contemplated, and which is required to be signed by the Bidder.

1.1.9.2 REQUEST FOR PROPOSAL (RFP)

The offer of the Contractor submitted on the prescribed form from the Project Manager to perform the work and furnish labor, material and all other costs at the prices quoted by the Contractor for proposed changes in the work.

1.1.10 SPECIFICATIONS

The products, directions, requirements, explanations, terms and provisions pertaining to the various features of the Work to be done and the manner and method of performance. The specifications include such directions, requirements and explanations as appear on the drawings and as may otherwise be defined.

1.1.11 PROJECT SITE

The geographic location of the Project as indicated on the Drawings.

1.1.12 PROJECT MANUAL

The Project Manual includes the Bidding and Contract Requirements, Project Schedule Milestone Dates, General and Supplementary Conditions, Wage Rates, the Specifications and project drawings incorporated by reference.

1.1.13 REQUEST FOR INFORMATION

Request for Information. Written interpretations necessary for the proper execution or progress of the Work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Project Manager. The Contractor may make written request to the Project Manager for such interpretations. Such interpretations will be consistent with and reasonably inferable from the Contract Documents.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract shall be signed in doubles by the Owner and Contractor, each of which shall be deemed an original, but all or which shall constitute one and the same instrument.

1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. Except as otherwise specifically provided, the Contractor shall furnish all labor, tools, implements, machinery, supplies, materials, and incidentals, and shall do all things necessary to perform and to complete the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonable inferable therefrom as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings unless otherwise specifically defined herein.

1.2.4 The organization of the Specifications into division, sections and articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by a trade.

- 1.2.5 If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence:

- 1.2.5.1 The Owner-Contractor Agreement;
- 1.2.5.2 Modifications;
- 1.2.5.3 Addenda;
- 1.2.5.4 Section 00800 - Supplementary General Conditions;
- 1.2.5.5 Section 00700 - General Conditions of the Contract for Construction;
- 1.2.5.6 Specifications - embodying all other sections in the Project Manual;
- 1.2.5.7 Drawings: as between schedules and information given on Drawings, the schedules shall govern; as between written dimensions given on Drawings and scaled measurements, the written dimensions shall govern; as between large-scale Drawings and small-scale Drawings, the larger scale shall govern;
- 1.2.5.8 Performance Bond, Labor and Material Payment Bond;
- 1.2.5.9 Bid/Proposal Form;
- 1.2.5.10 Instructions to Bidders/Proposers;
- 1.2.5.11 Invitation to Bid/Request for Proposal;
- 1.2.5.12 Student Community Workforce Agreement

All such conflicts shall be reported, in writing, to the Project Manager. Schedules, lists, indexes, tables, inventories, written instruction, written descriptions, summaries, statements, classifications, specifications, written selections, or written designations, although appearing on the Drawings, are deemed to be and are "Specifications" as defined by this Subparagraph 1.2.5. The principles as set forth herein shall not alter the provisions of Subparagraph 1.2.3.

In the event there is a conflict between or among any provisions within one of the component parts of the Contract Documents, the higher standard or more stringent requirement shall govern.

- 1.2.6 The Contractor agrees that nothing contained in the Contract Documents or any contract between the Owner and the Architect shall create any contractual relationship between the Architect and the Contractor, any Subcontractors, Sub-subcontractors, Material Suppliers or Vendors. The Contractor acknowledges and agrees that this Contract is not intended to create, nor shall any provision be interpreted as creating, any contractual relationship between the Owner or Contractor or any third parties.
- 1.2.7 Any material or operation specified by reference to published specifications of a manufacturer, a society, an association, a code, or other published standard, shall comply with requirements of the listed document and project specifications; or as between referenced documents, the more stringent code or performance requirements shall govern. The Contractor, if requested, shall furnish an affidavit from the manufacturer certifying that the materials or products delivered to the Project meet the requirement specified.

1.3 OWNERSHIP AND USE OF DOCUMENTS

- 1.3.1 All Drawings, Specifications and copies thereof furnished by the Owner are and shall remain its property. They are to be used only with respect to this Project and are not to be used on any other project.
- 1.3.2 The Owner will provide conformed drawings and specifications incorporating Addenda items into the Contract Documents. A reasonable number of reproduced sets will be provided to the contractor without charge.

END OF ARTICLE 1

ARTICLE 2

ARCHITECT

2.1 DEFINITION

- 2.1.1 The Architect is the person or organization lawfully licensed to practice architecture, or an entity lawfully practicing architecture identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Architect means the Architect and his engineers, whether under contract or within his own organization, or his authorized representative.
- 2.1.2 The term Architect is interchangeable with the term Project Architect, and is exclusive of the services of the Asbestos Abatement Architect.
- 2.1.3 The Asbestos Abatement Architect is not a part of the Architect's organization.

2.2 SERVICES OF THE ARCHITECT

- 2.2.1 The Architect will provide certain services as hereinafter described.
- 2.2.2 Should errors, omissions, or conflicts in the Drawings, Specifications, or other Contract Documents provided by the Architect be discovered, the Architect will prepare such amendments or supplementary documents and provide consultation as may be required.
- 2.2.3 The Architect and his consulting engineers (including but not limited to the structural, mechanical, and electrical disciplines) will visit the site at intervals appropriate to the stage of construction to familiarize themselves generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. Unless otherwise provided in the Owner-Architect Agreement, the Architect and his consulting engineers will not be required to make exhaustive or continuous on-site inspection or observations to check the quality or quantity of the Work, but they shall make as many on-site inspections and observations as may reasonably be required to fulfill their obligations to the Owner. On the basis of such on-site observation, the Architect and his consulting engineers shall endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.
- 2.2.4 The Architect will render written field reports to the Project Manager in the form required by the Project Manager relating to the periodic visits and inspections of the Project required by Subparagraph 2.2.3.
- 2.2.5 The Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the work.
- 2.2.6 The Architect shall at all times have access to the Work wherever it is in preparation or progress. The Contractor shall provide safe facilities for such access so the Architect may perform his functions under the Contract Documents.

- 2.2.7 The Project Manager will consult with the Architect regarding the Contractor's Applications for Payment and both shall sign the Applications for Payment as provided in Subparagraph 9.4.
- 2.2.8 As required, the Architect will render to the Project Manager interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon.
- 2.2.9 All communications, correspondence, submittals, and documents exchanged between the Architect and the Contractor in connection with the Project shall be through or in the manner prescribed by the Project Manager.
- 2.2.10 All interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents.
- 2.2.11 The Architect's decision in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents and approved by the Project Manager.
- 2.2.12 If the Architect observes any Work that does not conform to the Contract Documents, the Architect shall promptly report in writing this observation to the Project Manager. The Architect will prepare and submit to the Project Manager punchlists of the Contractor's Work which is not in conformance with the Contract Documents. The Project Manager will transmit such punchlists to the Contractor.
- 2.2.13 The Architect will review and take appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and for general compliance with the Contract Documents. Such action shall be taken in no more than twenty-one (21) days of receipt unless otherwise authorized by the Project Manager.
- 2.2.14 The Project Manager will establish with the Architect procedures to be followed for review and processing of all Shop Drawings, catalog submittals, project reports, test reports, maintenance manuals, and other necessary documentation, as well as requests for changes and applications for extensions of time.
- 2.2.15 The Architect will prepare technical documentation for Change Orders when directed by the Project Manager.
- 2.2.16 The Architect and the Project Manager will conduct inspections to determine the dates of Substantial Completion and Final Completion, and will issue a final Certificate of Substantial Completion.
- 2.2.17 Unless otherwise provided in the Contract Documents, or the Owner-Architect Agreement, the Architect will prepare a set of reproducible record prints of Drawings showing significant changes in the Work made during the construction process, based on neatly and clearly marked-up prints, Drawings, and other data furnished by the Contractor.
- 2.2.18 In case of the termination of the employment of the Architect, the Owner may appoint an architect against whom the Contractor makes no reasonable objection whose status under the Contract Documents shall be that of the former architect, or the Owner may have the Project Manager assume all of the services of the Architect thereafter.

2.3 ASBESTOS ABATEMENT ARCHITECT

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

Division 0
Section 00700

- 2.3.1 Solely with regards to asbestos abatement, the Asbestos Abatement Architect shall be afforded the same rights and authority as hereinbefore allowed the Architect.
- 2.3.2 The Architect is not a part of the Asbestos Abatement Architect's organization.
- 2.4 SEPARATE ARCHITECT, ENGINEER OR ARCHITECT/ENGINEER
 - 2.4.1 Unless otherwise noted in the Contract Documents, the Separate Architect, Engineer or Architect/Engineer, as defined by the Supplementary General Conditions, Document 00800, shall be afforded the same rights and authority as hereinbefore allowed the Architect.
 - 2.4.2 The Contract Documents, when applicable, shall define the portion of the Work relating to the services of the Separate Architect, Engineer or Architect/Engineer.

END OF ARTICLE 2

ARTICLE 3

OWNER

3.1 DEFINITIONS

- 3.1.1 The Owner is the Anchorage School District acting through its legally constituted officials, officers, employees, or agents and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or its authorized representative or agent.
- 3.1.2 The Asbestos Abatement Consultant is under separate Agreement with the Owner. Communications protocol between the Contractor and the Asbestos Abatement Architect shall be as established by the Project Manager.

3.2 PROJECT MANAGER

- 3.2.1 The Project Manager will be the Owner's representative and agent to the Contractor with respect to the Project during construction and until the issuance of the final Certificate for Payment. The term Project Manager is referred to throughout the Contract Documents as if singular in number and masculine in gender. The Owner's communications with the Contractor and the Architect will be through the Project Manager, who will have full authority to act on behalf of the Owner with regard to all aspects of the Project except that the Owner must approve all Change Orders and payments to the Contractor. The Project Manager's actions with regard to this project will be as an agent and representative of the Owner.
- 3.2.2 The Project Manager is not authorized to revoke, alter, change, relax, or release any requirements of the Contract, nor to approve or accept any portion of the Work not executed in accordance with, nor to issue instructions contrary to, the Contract Documents.
- 3.2.3 Nothing contained within the Contract Documents shall create any contractual relationship between the Project Manager and the Contractor.

3.3 INFORMATION, SERVICES AND RIGHTS OF THE OWNER

- 3.3.1 The Owner, through the Project Manager, will provide administration of the Contract as hereinafter described.
- 3.3.2 The Owner and the Project Manager shall at all times have access to the Work whenever it is in preparation or progress. The Contractor shall provide safe facilities for such access.
- 3.3.3 The Owner and the Project Manager shall not be responsible for or have control or charge of the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work and will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Project Manager will not be responsible for the acts or omissions of the Contractor, any Subcontractors, or any of their agents or employees, or any other persons performing any of the Work.
- 3.3.4 The Project Manager shall have authority on behalf of the Owner to condemn or reject Work when, in the Project Manager's opinion the Work does not conform to the Contract Documents. Whenever, in the Project Manager's reasonable opinion, it is considered necessary or advisable to insure the proper implementation of the intent of the Contract Documents, the Project Manager shall have the authority to require special inspection or

testing of any Work in accordance with the provisions of the Contracts Documents, whether or not such Work be then fabricated, installed, or completed.

- 3.3.5 The Project Manager will have authority to require additional inspection or testing of the Work in accordance with Subparagraph 7.7.3, whether or not such Work be then fabricated, installed, or completed. However, neither the Project Manager's authority to act under Subparagraphs 3.3.4 and 3.3.5, nor any decision made by the Project Manager in good faith either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Project Manager to the Contractor, any Subcontractor, any of their agents or employees, or any other persons performing any of the work.
- 3.3.6 The Project Manager shall have the authority and discretion to call, schedule, and conduct job meetings to be attended by the Contractor, and representatives of his Subcontractors, and Material Suppliers, and Vendors and the Architect, to discuss such matters as procedures, progress, changes, problems, claims and scheduling.
- 3.3.7 The Project Manager will establish procedures to be followed for processing all Shop Drawings, catalogs, and other project reports, and other documentation, test reports, and maintenance manuals.
- 3.3.8 The Project Manager will review all requests for changes and shall implement the processing of Change Orders, including applications for extension of the Contract time.
- 3.3.9 Project scheduling shall occur as set forth in Division 1, Section 01311 of the General Requirements, entitled "Schedules and Reports". The Owner and the Project Manager will not be responsible for the failure of the Contractor to plan, schedule, and execute the Work in accordance with the Contractor's accepted schedule or the failure of the Contractor to meet the Project Schedule Milestone Dates as set forth under Section 00200 hereof or the failure of the Contractor to schedule and coordinate the Work of his own trades and Subcontractors, and Material Suppliers and Vendors, or the failure of the Contractor to coordinate and cooperate with other separate contractors.
- 3.3.10 The Project Manager, in consultation with the Architect, will review and process all Applications for Payment by the Contractor, including the final Application for Payment.
- 3.3.11 The Owner and the Project Manager will not be responsible for the acts or omissions of the Contractor, or any Subcontractor, or Material Supplier and Vendor, or any contractor's, subcontractor's or Material Supplier's and Vendor's agents or employees, or any other persons performing any of the Work.
- 3.3.12 The Owner shall, if requested by the Contractor, furnish all existing and available surveys describing the physical characteristics, legal limitations and utility locations for the site of the Project.
- 3.3.13 Except as otherwise provided in the Contract Documents, the Owner shall pay for necessary easements required for permanent structures or for permanent changes in existing facilities. The Contractor shall be responsible for obtaining all necessary permits and coordinating the securing of easements, inspections and approvals for permanent structures and all associated work.
- 3.3.14 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.
- 3.3.15 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of Drawings and Specifications, and such supplemental

documents as are reasonably necessary for the execution of the Work.

- 3.3.16 The foregoing rights are in addition to other rights of the Owner enumerated herein and those provided by law.

3.4 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 3.4.1 The Owner reserves the right to perform other work at the project site(s) with his own forces, and to award separate contracts in connection with portions of other work on the site.
- 3.4.2 The Contractor shall afford the Owner and separate Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their Work, and shall coordinate his Work with theirs as required by the Contract Documents.
- 3.4.3 A pre-construction conference will be held with the Contractor, Project Manager, and other contractors performing work at the project site, for the purpose of coordinating work in areas where more than one contractor may be working. The time of the meeting will be established by the Owner's Representative prior to the Contractor commencing his work.
- 3.4.4 The Contractor shall attend additional coordination meetings, as requested by the Owner's Representative.

3.5 OWNER'S RIGHT TO STOP OR TO SUSPEND THE WORK

- 3.5.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2 or fails to carry out the Work or supply labor and materials in accordance with the Contract Documents, the Owner, through the Project Manager, by a written order may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Project Manager to stop the Work on behalf of the Owner shall not give rise to any duty on the part of the Project Manager to exercise this right for the benefit of the Contractor or any other person or entity.
- 3.5.2 The Project Manager may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the Owner.
- 3.5.3 Upon receipt of any such suspension order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize incurring costs allocated to the Work covered by the order during the period of Work suspension.
- 3.5.4 If the performance of all or any part of the Work is suspended, or delayed, or interrupted by the Owner or the Project Manager pursuant to Subparagraph 3.5.2, the Contractor may make application for an adjustment in contract time and contract sum pursuant to Paragraph 12.2, and Division 1, Section 01311, Paragraph 2.03, respectively. No such adjustment shall be made if the performance of the Work is suspended by the Owner pursuant to Subparagraph 3.5.1.

3.6 OWNER'S RIGHT TO CARRY OUT THE WORK

- 3.6.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven (7) days after receipt of written notice from the Project Manager to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, after seven (7) days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy he may have,

make good such deficiencies and may further elect to complete all Work thereafter through such means as the Owner may select, including the use of a new Contractor. In such a case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including additional Owner administrative and legal costs, and compensation for the Architect's and the Project Manager's additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

3.7 AUDIT

- 3.7.1 The Owner shall have access to the Contractor's books, accounts, records, invoices and other records and documents pertaining to the Project at all reasonable times for the purpose of inspecting and auditing such. The Contractor shall provide to the Owner his daily manpower and equipment reports for all Subcontractors and any and all information requested or required by the Owner to validate or verify an Application for Payment, claim for cost or a requisition. The Contractor shall have no right to additional compensation or time in the event a requisition is delayed due to the inability of the Owner to validate or verify an Application for Payment due to the failure or refusal of the Contractor to allow such inspection or audit or to provide such requested information.
- 3.7.2 The Contractor shall maintain all data and records pertinent to the Work performed under this Contract in accordance with generally accepted accounting principles, and shall preserve and make available all data and records until the expiration of three (3) years from the date of final payment under this Contract, or for such longer period, if any, as is required by applicable statute, pending litigation, or by other articles of this Contract. The Owner and its authorized representatives shall have access to all such data and records for such time period to inspect, audit and make copies thereof during normal business hours.
- 3.7.3 The Contractor covenants and agrees that it shall require that any Subcontractor and any Sub-Subcontractor utilized in the performance of this Contract shall permit the authorized representatives of the Owner to similarly inspect and audit all data and records of said Subcontractors and Sub-Subcontractors relating to the performance of said Subcontractors and Sub-Subcontractors under this Contract for the same time period specified above.

END OF ARTICLE 3

ARTICLE 4

CONTRACTOR

4.1 DEFINITION

- 4.1.1 The Contractor is the person or organization identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative, who shall have the authority to bind the Contractor in all matters pertinent to this Contract.

4.2 REVIEW OF CONTRACT DOCUMENTS

- 4.2.1 Before placing his proposal to the Owner, and continuously after execution of the Contract, the Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner, through the Project Manager, any error, inconsistency or omission he may discover, including any requirement which may be contrary to any law, ordinance, rule, regulation or order of any public authority bearing on the performance of the Work. By submitting his proposal or bid for the Contract and the Work under it, the Contractor agrees that the Contract Documents appear accurate, consistent, and complete insofar as can reasonably be determined. If the Contractor has reported in writing an error, inconsistency or omission, has promptly stopped the affected work until otherwise instructed, and has otherwise followed the instructions of the Owner, the Contractor shall not be liable to the Owner for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents. The Contractor shall perform no portion of the Work at any time without Contract Documents and, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- 4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for and have control over all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.
- 4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors, and Material Suppliers and Vendors, and their agents and employees, and other persons performing any of the work.
- 4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect or the Project Manager in their administration of the Contract, or by inspections, tests or approvals (or the lack thereof) required or performed under Paragraph 7.7 by persons other than the Contractor.
- 4.3.4 Independent of this Contract, the Owner has undertaken a long term asbestos abatement program by which the Owner intends to properly document the existence of asbestos-contained materials and the lawful removal of ACM by qualified asbestos abatement contractors or subcontractors in accordance with the Asbestos Hazard Emergency Response Act (AHERA) and the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). As part of this asbestos abatement program, the Owner has employed a private consultant to locate asbestos-containing materials present in the Owner's facilities. A copy of the AHERA report as it relates to the facility which is involved in this Contract can be obtained from the Owner by contacting the Project Manager.

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- 4.3.4.1 Before starting the Work or any Section of the Work, the Contractor shall inspect or, if using a Subcontractor for a Section of the Work, shall cause his Subcontractor to inspect all preparatory work, including that performed prior to the commencement of the Work under this Contract, for the presence of suspected asbestos-containing materials.
- 4.3.4.2 If the Contractor or his Subcontractor encounters any asbestos-containing material or suspected asbestos-containing material -- whether such material is identified in the AHERA report or the private consultant's report or not -- the Contractor shall bring it to the immediate attention of the Project Manager by timely written notice. Such notification shall be considered timely if received by the Project Manager within two (2) days after the discovery of the asbestos-containing material or suspected asbestos-containing material by the Contractor or by a Subcontractor if the Contractor uses a Subcontractor to perform that Section of the Work. If the Contractor does not give timely notice of the presence of asbestos-containing material or suspected asbestos-containing material, the Contractor will not receive additional compensation for delay caused by the necessity of the Owner to stop work and abate asbestos-containing material during the course of the Work. Failure of a Subcontractor to report the presence of asbestos-containing material or suspected asbestos-containing material to the Contractor shall not relieve the Contractor of his responsibilities hereunder.
- 4.3.4.3 If the Contractor, or his employees, agents or subcontractors intentionally or negligently disturbs or removes, or causes to be disturbed or removed, all or a portion of asbestos-containing material, the Contractor shall indemnify, hold harmless and defend the School District and the Project Manager from and against any claims, damages, losses and expenses, and alleged claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from any cleanup/decontamination work, medical treatment, or legal action arising or resulting from said intentional or negligent disturbance or removal of asbestos-containing material.
- 4.3.5 The Contractor shall make all necessary arrangements and so conduct the Work that all parts of the same will be carried out simultaneously and harmoniously and that the work of installing the various sections or items of same shall not interfere with or retard the progress of other Work.
- 4.3.6 If it becomes necessary at any time during the progress of the Work to move materials and/or equipment which have been temporarily located or stored, the Contractor shall move them or cause them to be moved, at his expense. Care shall be taken that no part of the Work shall be overloaded at any time.
- 4.3.7 The Contractor shall furnish all required information to ensure continuity between various sections of the Work and to avoid delay and obviate defects on any part of the whole Work, all as approved by the Owner.
- 4.3.8 Any damage caused by the handling or installation of materials or equipment, or the carrying out of any portion of the Work must also be made good by the Contractor to the satisfaction of the Project Manager.
- 4.3.9 The Contractor shall compare all the various drawings, and shall install Work in a manner to provide for all clearances and finishes indicated thereon. Work under each trade shall be arranged to clear piping, equipment, etc., of all other trades.
- 4.3.10 The Contractor shall inform himself fully regarding any peculiarities and limitations of the

space available for the installation of the material. He shall see that all equipment, such as valves, or other appliances necessary to be reached from time to time for operations and maintenance are made readily accessible.

- 4.3.11 The construction of the Work may develop conditions that render impracticable the location of equipment as shown or noted. In such cases, before installing his Work, the Contractor shall call the condition to the attention of the Project Manager for resolution.
- 4.3.12 It shall be the Contractor's sole responsibility to so coordinate the Work that chases or other recesses in walls shall be provided where required, and that reasonable clearance between the work of various trades shall be maintained. The layout for openings and chases through walls, floors, and partitions, etc., shall be arranged in advance of the actual construction and the work carried out without unnecessary and superfluous cutting, etc., after the Work has been completed.
- 4.3.13 Dimensions shall be verified by the measurements of the buildings and the property, and the Contractor shall be responsible for all of his work fitting in place in a satisfactory and workmanlike manner.
- 4.3.14 The Contractor has carefully examined, in detail, all of the Drawings and Specifications and the time established for completion of the Work, and he accepts them as adequate to meet the requirements specified.
- 4.3.15 The Contractor shall be responsible for coordinating the work performed by any artist in connection with the project's ornamentation with the construction of this project, so that there shall be no unnecessary delay or interference in connection with said construction.
- 4.3.16 The Contractor shall coordinate and generally supervise the Work of this Contract and shall coordinate his Work with Work performed under Separate Contracts by mutual arrangement and agreement with the Contractors for those Contracts and the Project Manager. Unresolved disputes will be finally resolved by the Project Manager, subject to approval of the Owner, and the dispute resolution provisions of Subparagraph 12.5.

4.4 LABOR AND MATERIALS

- 4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents, and any applicable building permit, conditional and final certificate(s) of occupancy, code or statute, whether specifically required by the Contract Documents or whether their provision may reasonably be inferred as necessary to produce the intended results, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- 4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him. The Project Manager may, by notice in writing, require the Contractor to promptly remove from the site of the Work any employee or worker the Project Manager deems incompetent, careless or otherwise objectionable including violation of District Policies relating to alcohol, illegal drugs, or firearms on District property.
- 4.4.3 The Contractor shall be responsible for ensuring that the Work is completed in a skillful and workmanlike manner.

4.5 WARRANTY

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- 4.5.1 The Contractor warrants to the Owner and the Architect that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, is defective. If required by the Project Manager or the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 13.2.
- 4.5.2 The warranties set forth in this Paragraph 4.5 and elsewhere in the Contract Documents shall survive final acceptance under Paragraph 9.9.
- 4.6 TAXES
 - 4.6.1 The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.
- 4.7 PERMITS, FEES AND NOTICES
 - 4.7.1 Except as specifically provided in Subparagraph 3.3.13 the Contractor shall secure and pay for (1) all permits and governmental fees, licenses and inspections necessary for the proper execution of the Work which are legally required at the time the bids are received, and (2) all permits and governmental fees, licenses and inspections from any agency or department of the Municipality of Anchorage that would be necessary for the proper execution of the Work or legally required at the time bids are received just as if the Work were performed and the Project located within the Municipality of Anchorage. The Municipality of Anchorage shall be considered a "public authority bearing on the performance of the Work" and a "public authority having jurisdiction" for purposes of this Contract.
 - 4.7.1.1 The Anchorage School District has paid for the Municipality of Anchorage's Building Plan Review and Building Fee Permit. Contractor shall obtain permit upon notice from Project Manager.
 - 4.7.2 The Contractor shall give all notices and comply with all such laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work.
 - 4.7.3 If the Contractor performs any Work knowing it to be contrary to any such laws, ordinances, rules, regulations or orders of any public authority bearing on the performance of the Work, and does so without reasonable notice to the Project Manager, the Contractor shall assume full responsibility therefore and shall bear all costs attributable thereto.
 - 4.7.4 Notification, coordination and completion of the installation of all required utilities, whether temporary or permanent, is the sole responsibility of the Contractor. The Owner shall not be responsible for any damage or delay caused by any party's inability to perform installations in the time frame desired by the Contractor.
- 4.8 ALLOWANCES
 - 4.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom he makes a reasonable objection.

4.8.2 Unless otherwise provided in the Contract Documents:

- 4.8.2.1 These allowances shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes;
- 4.8.2.2 The Contractor's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowances;
- 4.8.2.3 Whenever the cost is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

4.9 SUPERINTENDENT

- 4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance full-time at the Project Site during the progress of the Work. The superintendent shall represent the Contractor, and all communications given to the superintendent shall be as binding as if given to the Contractor. If requested by the Project Manager, the Contractor shall provide a management chart and a list of personnel in a number stipulated by the Project Manager which shall comprise the superintending staff. In such event, all references to the superintendent elsewhere in the Contract Documents shall mean the superintending staff.
- 4.9.2 The superintendent shall be in attendance at the Project Site not less than eight (8) hours per day, five (5) days per week, unless the job is closed down due to a general strike or conditions beyond the control of the Contractor or until termination of the Contract in accordance with the Contract Documents. The superintendent shall not be employed on any other project during the course of the Work.
- 4.9.3 In the event any of the following conditions shall exist, the Contractor shall require that his superintendent be at the Project Site not less than ten (10) hours per day, six (6) days per week:
 - 4.9.3.1 Should Substantial Completion not be accomplished on schedule.
 - 4.9.3.2 Should Final Completion not be accomplished on schedule.
 - 4.9.3.3 Should the Contractor's progress schedule indicate the Contractor to be fourteen (14) or more days behind schedule at any time during construction up until thirty (30) days prior to scheduled Substantial Completion.
 - 4.9.3.4 Should the Contractor's progress schedule indicate the Contractor to be seven (7) or more days behind schedule at any time during the last thirty (30) days prior to scheduled Substantial Completion.

4.10 CONSTRUCTION SCHEDULE

- 4.10.1 The Contractor shall prepare and submit to the Project Manager for the Owner's review and acceptance a construction schedule pursuant to and in accordance with Division 1, Section 01311 of the General Requirements entitled "Project Schedule."

4.11 DOCUMENTS AND SAMPLES AT THE SITE

- 4.11.1 The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Project Manager and the Architect and shall be delivered to the Project Manager upon substantial completion of the Work.

4.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 4.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- 4.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, diagrams, and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.
- 4.12.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- 4.12.4 The Contractor shall review, approve and submit using the ASD Procore Construction Management Program, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents, or subsequently by the Project Manager. The Contractor's Shop Drawings, Product Data, and Samples submissions shall be coordinated and consistent with the Contractor's Project Scheduling obligations under Division 1, Section 01311 of the Contract Documents. Shop Drawings and Samples shall be properly identified as specified, or as the Project Manager may require. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the Shop Drawings or Samples from the requirements of the Contract Documents.
- 4.12.5 By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instruction pertaining to Shop Drawings which may be issued by the Project Manager.
- 4.12.6 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval and Project Manager's review of Shop Drawings, Product Data or Samples under Subparagraph 2.2.14 unless the Contractor has specifically informed the Architect and Project Manager in writing of such deviation at the time of submission and the Architect and Project Manager have given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omission in the Shop Drawings, Product Data or Samples by the Architect's approval of or Project Manager's review thereof.
- 4.12.7 The Contractor shall promptly make corrections required by the Architect and shall resubmit the required number of corrected copies of Shop Drawings or new Product Data or Samples. The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the

Architect on previous submittals. Resubmittals necessitated by required corrections due to Contractor's errors or omissions, or less than complete submittals as required by the specifications, shall not be cause for extension of Contract Time.

- 4.12.8 The Contractor shall keep on the job at all times copies of approved Shop Drawings, Product Data or Samples which bear the review stamp of the Architect/Engineer.
- 4.12.9 The review of Shop Drawings, Product Data or Samples by the Architect and Project Manager shall not relieve the Contractor from his responsibility to coordinate the work of the Subcontractors.
- 4.12.10 The review of Shop Drawings, Product Data or Samples by the Architect and the Project Manager shall not relieve the Contractor of his responsibilities to construct the work in accordance with the Contract Documents.
- 4.12.11 The review of Shop Drawings, Product Data or Samples by the Architect shall not be construed as an approval of the quantities of materials or confirmation of dimensions.
- 4.12.12 In preparing a schedule for delivery of materials the Contractor shall allow reasonable time for the approval, including resubmissions due to Contractor's errors and omissions, of Shop Drawings, Product Data or Samples.
- 4.12.13 When Shop Drawings, Cuts, or Brochures are forwarded to the Architect by the Contractor for approval, a copy of the Contractor's letter of transmittal with project name, Contractor's name, number of drawings, title and other pertinent data covering each transaction is to be mailed to the Project Manager. The Architect and his consulting Engineers shall follow the same procedure when it is necessary for them to return or transfer Shop Drawings, Cuts or Brochures either between themselves or to the Contractor for changes, corrections or resubmittal, so that the Project Manager can record and follow procedure for each transaction to finality.
 - 4.12.13.1 Pursuant to and consistent with the Contractor's Project Schedule development obligations under Division 1, Section 01311 of the Contract Documents, the Contractor shall submit Shop Drawings, Product Data and Sample submission schedule information to the Architect and Project Manager. The Contractor shall submit, and the Architect and Project Manager will review, the Contractor's submittals in accordance with the Contractor's accepted Preliminary and Detailed Project Schedules, as required under Division 1, Section 01311 of the Contract Documents. The Contractor shall submit no Shop Drawings, Product Data or Samples which do not comply with the Contract Documents.
 - 4.12.13.2 No portion of the Work requiring a Shop Drawing, Product Data or Sample submission shall be commenced until such submission has been reviewed, and approved, by the Architect in accordance with Subparagraph 2.2.13. All such portions of the Work shall be in accordance with approved submittals.
 - 4.12.13.3 No claim for delay shall be allowed the Contractor on account of failure of the Architect to furnish drawings or approval of Shop Drawings and Samples until at least twenty-one (21) days after submission to the Architect.
- 4.12.14 Shop Drawings, Product Data, and Samples shall be dated and shall bear the name of the Project; a description or the names of equipment, materials and items; and complete identification of locations at which materials or equipment are to be installed.

4.12.15 In submitting for approval the use of any material or device as the equal of some other material or device specified by name, the Contractor shall submit a sample of the material specified and also a sample of the material proposed to be submitted as the equal thereof, together with any supporting data necessary to reasonably allow the Architect and the Project Manager to review the material.

4.12.16 In case of devices, samples of which cannot readily be submitted, catalogs and other data, shall be submitted.

4.12.17 Any material or device proposed to be substituted shall not be deemed acceptable except by written communication from the Architect and Project Manager.

4.12.18 All Work for which samples are required to be submitted and approved shall be executed and performed in conformity with the said approved samples.

4.13 USE OF SITE

4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the building or site with any materials or equipment.

4.13.2 The Contractor shall coordinate all of his operations with and secure approval from the Project Manager before using any portion of the site.

4.13.3 All Work or materials of every description subject to injury during the course of the Work shall be fully protected from damage from any source. In any event, should any Work or materials under this Contract, become damaged in any way or manner the Contractor shall repair and perfect the same at his own expense, and when the entire Contract is completed, the building and premises shall be delivered to the Owner without defects. Any damage which may be caused by the installation of any portion of the Work covered by these specifications and conditions, or by the Contractor shall be satisfactorily made good and repaired by the Contractor without cost to the Owner.

4.13.4 The Contractor shall provide and maintain all lights, footways, guards, fences, gates, etc., for the proper protection of the public, and shall comply with all municipal rules, regulations, ordinances and laws, relating to the prosecution of his work.

4.13.5 The Contractor shall properly and carefully shore up or otherwise support all live water, sewer and gas pipes, electric wires, free-standing walls, conduit, etc., which may be encountered.

4.13.6 The Contractor shall furnish for his use, throughout the entire construction all scaffolding, ladders, decking or runways as needed to perform the Work under this Contract.

4.13.7 The Contractor shall construct elevators, cranes and other rigging, concrete lifts, etc., as required for his Work.

4.13.8 All such construction shall be carried out as required by the code or authority having jurisdiction. No cranes or other heavy equipment shall be located or moved in such manner as to damage or strain the framework or any part(s) of the proposed building and/or existing building.

4.13.9 As construction proceeds, the Project Manager may deem it necessary to have the Contractor move trailers, fences, stored materials, etc., to facilitate the construction. Upon written notice from the Project Manager, this will be done without additional cost to the

Owner.

4.13.10 When school is in session the Contractor will be restricted to the areas which do not interfere with school operations. These areas shall be safety and security fenced to not impact school operations. Additional areas may be utilized upon concurrence of the Project Manager. The Contractor shall minimize his impact on the educational program while his work is in progress. Workers must stay out of school while school is in session. All work in the existing school can only take place during the hours approved by the Project Manager

4.13.11 The Contractor must maintain interior building fire exits through the construction areas and maintain these exits during all school operation hours, to the satisfaction of the Authorities having Jurisdiction. These exit routes may not be modified without concurrence of the Project Manager and the School Principal.

4.13.12 The Contractor must maintain fire equipment access routes open to site and buildings. According to UFC 10.502 fire equipment access and water supplies shall be installed and made serviceable prior to and during the time of construction. This is the Contractor's responsibility to coordinate.

4.13.13 The Contractor shall keep the boilers operational while the average outside temperature is below 60° F while the school program is in operation or at any time temperature is below 40° F, to protect facility utility systems.

4.14 CUTTING AND PATCHING OF WORK

4.14.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly.

4.14.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate Contractor except with the written consent of the Owner and of such separate Contractor. The Contractor shall not unreasonably withhold, from the Owner, or any separate contractor his consent to cutting or otherwise altering the Work.

4.14.3 Existing structures and facilities including but not limited to building, utilities, topography, streets, curbs, walks, etc., that are damaged or removed due to required excavations or other construction work, shall be patched, repaired or replaced by the Contractor to the satisfaction of the Project Manager, the owner of such structures and facilities, and authorities having jurisdiction. In event the local jurisdictional authorities require that such repairing and patching be done with their own labor and materials, the Contractor shall abide by such regulations and pay for such work.

4.14.4 Whenever, for the convenience of work, an oversized opening has been provided, it shall be the responsibility of the Contractor requesting and requiring such opening to eventually fill unused portions of such openings with the appropriate material and with special attention to penetrations of firewalls. Such repair shall be in accordance with Paragraph 4.14.1.

4.15 CLEANING UP

4.15.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his

tools, construction equipment, machinery and surplus materials.

- 4.15.2 If the Contractor fails to clean up during or at the substantial or final completion of his Work, the Owner may do so as provided in Paragraph 6.3 and the costs thereof shall be charged to the Contractor.

4.16 COMMUNICATIONS

- 4.16.1 The Contractor shall forward all communications to the Architect or the Owner through the Project Manager, except as described under Paragraph 4.12.13.

4.17 ROYALTIES AND PATENTS

- 4.17.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Project Manager.

4.18 INDEMNIFICATION

- 4.18.1 To the fullest extent permitted by law, the Contractor shall, at his sole cost and expense, indemnify, hold harmless and defend the Owner, the Municipality of Anchorage and their Board or Assembly members, administrators, representatives, and employees, and the Project Architect and its agents, representatives, and employees from and against all claims, actions, judgments, costs, liabilities, penalties, damages, losses and expenses, including but not limited to attorneys' fees, which arise out of or result from the performance of the Work, and which are:

- 4.18.1.1 Attributable to bodily injury, sickness, disease or death, or to injury to, pollution of, or destruction of property (other than the Work itself) including the loss of use resulting therefrom; and
- 4.18.1.2 Caused by the default of the Contractor, or by any act, whether negligent or wrongful, or omission of the Contractor, any Subcontractor, Material Supplier or Vendor, anyone directly or indirectly employed by any of them or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

- 4.18.2 In any and all claims against the Owner or the Municipality of Anchorage or their Board or Assembly members, administrators, representatives or employees, and the Project Architect and its agents, representatives, and employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.18 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor and Subcontractor under worker's compensation acts, disability benefit acts or other employee benefit acts.

4.19 PERSONS AUTHORIZED TO SIGN DOCUMENTS

- 4.19.1 The Contractor, within five (5) days after the Notice to Proceed shall file with the Project Manager a list of all persons who are authorized to sign documents such as contracts,

modifications, schedules, certificates, and affidavits on behalf of the Contractor and to fully bind the Contractor to all the Conditions and provisions of such documents, except that in the case of a corporation he shall file with the Project Manager a certified copy of a resolution of the Board of Directors of the corporation in which are listed the names and titles of corporation personnel who are authorized to sign documents on behalf of the corporation and to fully bind the corporation to all the conditions and provisions of such documents. This person, or at least one of these persons, shall be available to meet in Anchorage, Alaska, with the Owner or his representative(s) to discuss, negotiate and/or resolve any Change Order or other Modification to the Contract or any other matter needing resolution by the parties as determined at the sole discretion of the Owner within forty-eight (48) hours after receipt of written notice, at no additional cost to the Owner.

4.20 CONDITIONS AFFECTING THE WORK

- 4.20.1 The Contractor shall be responsible for taking all steps necessary to ascertain the nature and location of the Work and the general and local conditions which can affect the Work or the cost thereof. Failure by the Contractor to fully acquaint himself with conditions which may affect the Work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of labor, water, roads, weather, topographic and subsurface conditions, multi-prime contract conditions, applicable provisions of law, and the character and availability of equipment and facilities needed prior to and during the execution of the Work, shall not relieve the Contractor of his responsibilities under the Contract Documents and shall not constitute a basis for an adjustment in the Contract Sum or the Contract Time under any circumstances. The Owner assumes no responsibility for any understanding or representation about conditions affecting the Work made by any of his officers, employees, representatives, or agents prior to the execution of the Contract, unless such understandings or representations are expressly stated in the Contract Documents.
- 4.20.2 Until final acceptance by the Owner, the Contractor shall be in complete control of and fully responsible for the Work.
- 4.20.3 The Contractor shall give to the proper authorities all required notices relating to the Work in his charge, and shall be responsible for all acts and events which are violations of the law or which would be violations of the law had the Work been performed or the Project located within the Municipality of Anchorage.
- 4.20.4 Wherever herein mention is made of any article, material or workmanship to be in accordance with the laws, ordinances, building code, Underwriter's Code, and A.S.T.M. Specifications or similar expressions, the requirement of these laws, ordinances, etc., shall be construed as the minimum requirements of these Specifications, and all articles, materials and workmanship required by these laws, ordinances, etc., shall be provided by the Contractor without any additional cost to the Owner.
- 4.20.5 Where the requirements of the laws, ordinances, etc., are mandatory, they shall govern.
- 4.20.6 Where the requirements of the Specifications call for higher grade or are not in conflict with the laws, ordinances, etc., the Specifications shall govern.
- 4.20.7 In case of any apparent conflict between the Specifications and such laws, ordinances, etc., the Contractor shall immediately call the attention of the Project Manager (in writing) to such conflict for decision, before proceeding with any work which may involve such conflict.

END OF ARTICLE 4

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITION

- 5.1.1 A Subcontractor is a person, organization or entity who has a direct contract with the Contractor to perform any of the Work. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractors.
- 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the Work. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.
- 5.1.3 Nothing contained in the Contract Documents is intended to, nor shall it create, any contractual relationship between the Owner, the Project Manager, the Architect, or any of their agents, employees, or representatives and any Subcontractor or Sub-subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 The Contractor, in compliance with the requirements of the Contract Documents, shall furnish to the Project Manager in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Project Manager will within ten (10) days of receipt of such information reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Project Manager to reply within a reasonable time shall constitute notice of no reasonable objection. The Contractor understands and agrees that no contractual agreement exists for any part of the Work under this Contract between the Owner and any of the Contractor's Subcontractors or Sub-subcontractors. Further, the Contractor understands and agrees that he alone is responsible to the Owner for all of the Work under this Contract and that any review of Subcontractors or Sub-subcontractors by the Owner or Project Manager will not in any way make the Owner responsible to any Subcontractor or Sub-subcontractor, nor responsible for the actions or failures of any Subcontractor or Sub-subcontractor.
 - 5.2.1.1 Within ten (10) days after the Notice to Proceed, the Contractor shall furnish to the Project Manager, in writing, for acceptance by the Owner, a list of names of the Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors, proposed for the principal portions of the Work.
 - 5.2.1.2 Within thirty-five (35) days after Notice to Proceed, the Contractor shall submit to the Project Manager, copies of Purchase Orders or other satisfactory evidence of purchase for all major materials.
- 5.2.2 The Contractor shall not contract with any such proposed person or entity to whom the Project Manager has made reasonable objection under the provisions of this Subparagraph.
 - 5.2.2.1 The Contractor shall not be required to contract with anyone to whom he has a reasonable objection. There shall be no entitlement to additional compensation based upon the Project Manager's reasonable objection made

under this Section.

- 5.2.3 If the Project Manager has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Project Manager has no reasonable objection.
- 5.2.4 The Contractor shall make no substitution for any Subcontractor, person or entity previously selected if the Project Manager makes reasonable objection to such substitution.
- 5.2.5 During the course of the Project the Contractor must notify the Project Manager in writing regarding any changes in any Work by any Subcontractor, Sub-subcontractor, Material Supplier or Vendor.

5.3 SUBCONTRACTUAL RELATIONS

- 5.3.1 By an appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to his Sub-subcontractors, Material Suppliers or Vendors.
- 5.3.2 In addition to Sub-Contractual agreement in Paragraph 5.3.1, the Contractor shall allow the Subcontractor, Sub-subcontractor, Material Supplier or Vendor to notify the Project Manager due to failure of payment, unwarranted retainage or deductions of payment or unwarranted lateness of payment.
- 5.3.3 As a condition precedent to the acceptance of the Contractor's proposed Preliminary and Detailed Project Schedules by the Project Manager, each major Subcontractor shall in writing, with the submission of said schedules by the Contractor, confirm that they have reviewed the Contractor's proposed Project Schedules, and that each concurs with the activity breakdowns, durations, cost loading, and logic as relates to each major Subcontractor's scope of the Work and the incorporation of said Work into the Contractor's proposed Preliminary and Detailed Project Schedules, as prescribed under Division 1, Section 01311 of the General Requirements of the contract documents.

5.4 PREPARATORY WORK

- 5.4.1 Before starting work, the responsible Subcontractor shall carefully examine all preparatory Work that has been executed to receive his Work. He shall check carefully, by whatever means are required, to ensure that his work and adjacent related Work will finish to proper contours, planes, and levels. He shall promptly notify the Contractor and the Project

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Manager of any defects or imperfections in preparatory Work which will, in any way, affect satisfactory completion of his Work. Absence of such notification will be construed as an acceptance of preparatory work and later claims of defects therein will not be recognized.

- 5.4.2 Each Subcontractor is required to follow the provisions of 4.3.4 relating to asbestos abatement.

5.5 PAYMENTS TO SUBCONTRACTORS, SUB-SUBCONTRACTORS, AND MATERIAL SUPPLIERS AND VENDORS

- 5.5.1 If the Project Manager withholds a Certificate for Payment for any cause which is the fault of the Contractor and not the fault of a particular Subcontractor, Sub-subcontractor, and Material Supplier and Vendor, the Contractor shall pay that Subcontractor, Sub-subcontractor, Material Supplier and Vendor on demand, made at any time after the Certificate for Payment should otherwise have been issued, for his work to the extent completed, less any retained percentage.
- 5.5.2 The Contractor shall pay each Subcontractor, Sub-subcontractor, and Material Supplier and Vendor a just share of any insurance monies received by the Contractor, and he shall require each Subcontractor to make similar payments.

END OF ARTICLE 5

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract.
- 6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.
- 6.1.3 Upon transfer of such separate contracts to a General Contractor, if the Owner so desires to transfer such contracts, the Contractor shall be obligated to the conditions as outlined by Paragraph 6.3. of these Conditions.

6.2 MUTUAL RESPONSIBILITY

- 6.2.1 The Contractor shall afford the Owner and separate Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their Work, and shall connect and coordinate his Work with theirs as required by the Contract Documents.
- 6.2.2 If any part of the Contractor's Work depends for proper execution or results upon the Work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Owner any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report in writing to the Owner shall constitute an acceptance of the Owner's or separate contractors' work as fit and proper to receive his Work, except as to defects which may subsequently become apparent in such work by others.
 - 6.2.2.1 In addition to inspection as to defect, the Contractor, if so deemed necessary by the Contractor, shall measure or inventory work already in place or stored and shall at once report, in writing, to the Project Manager any conflicts between the executed Work and the Contract Documents the Contractor has signed his name thereto.
 - 6.2.2.2 Upon notification from the Owner that a part of the Work furnished under this Contract is not in accordance with the Contract Documents, the Contractor shall immediately initiate action to correct the Work.
 - 6.2.2.3 If the Contractor fails to install his Work in a timely manner, the Owner through the Project Manager may authorize other Contractor(s) to perform their Work out of proper sequence. All extra Work necessary to properly interface with the other Contractor(s)' Work will be accomplished by this Contractor at no additional cost to the Owner.
- 6.2.3 Any costs caused by defective or ill-timed work shall be borne by the Contractor.
- 6.2.4 Should the Contractor wrongfully cause damage to the Work or property of the Owner, or to other Work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

- 6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other Contractor by agreement; or otherwise to resolve the dispute. If such separate Contractor sues or initiates a proceeding against the Owner, the Project Manager and/or the Architect on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at his own expense, and if any judgment or award against the Owner, the Project Manager, and/or the Architect arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner, the Project Manager and/or the Architect for all attorneys' fees and court or other costs which the Owner, the Project Manager and/or the Architect have incurred.
- 6.2.6 In the event there is more than one contractor engaged on the Project, each such contractor shall be responsible to the other for damages to work, injury to any person or persons, or for any loss, cost, claims, or damages arising out of or in connection with the Work required by this Contract or any loss, cost, expense, or damage caused by the Contractor's neglect or failure to finish or satisfactorily complete his part of the Work within the time prescribed. In all events, the provisions of Paragraph 4.18 shall be applicable.
- 6.2.7 Whenever the Contractor receives items from another Contractor or from the Owner for storage, erection or installation, the Contractor receiving such items shall give receipt for items delivered, and thereafter will be held responsible for care, storage and any necessary replacing of item or items received.
- 6.2.8 The separate contractors shall establish and maintain communication throughout the course of their Work to assure maximum coordination of the Work performed by each. This includes the approvals of the Work of each as required by proper coordination.
- 6.3 OWNER'S RIGHT TO PERFORM DISPUTED WORK
 - 6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.15 or for accomplishing coordination or doing required cutting, filling, excavating or patching as required by Paragraph 4.14, the Owner may carry out such Work and charge the cost thereof to the contractors responsible therefor as the Owner shall determine to be just.
- 6.4 EQUIPMENT OR WORK NOT IN CONTRACT (NIC)
 - 6.4.1 When certain items of equipment and other work are indicated as "NIC" (Not In Contract), or to be furnished and installed under other contracts, any requirements for preparation of openings, provision of backing, etc., for receipt of such "NIC" work, information will be furnished upon written request of the Contractor who shall properly form and otherwise prepare his Work in a satisfactory manner to receive such "NIC" work.
- 6.5 CUTTING AND PATCHING UNDER SEPARATE CONTRACTS
 - 6.5.1 Each Contractor shall be responsible for any cutting, fitting and patching that may be required to complete his Work except as otherwise provided in the Contract Documents. The Contractor shall not endanger any human life or portion of the Work performing any cutting, excavating or otherwise altering the Work or any part thereof.

END OF ARTICLE 6

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 Unless otherwise provided in the Contract Documents, the Contract shall be governed by the law of the place where the Project is located.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the Owner.

7.3 WRITTEN NOTICE

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

7.4 CLAIMS FOR DAMAGES

7.4.1 Should the Contractor suffer injury or damage to person or property because of any act or omission of the Owner or of any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to the Owner, through the Project Manager, within twenty (20) days after the first observance of such injury or damage; otherwise, the Contractor shall have waived any and all rights he may have against the Owner, the Project Manager, the Architect, or their employees, representatives or agents.

7.4.2 Decisions of the Project Manager shall be rendered as provided for under the Contract Documents, but no decision of the Project Manager shall deprive the Owner or the Contractor of any form of redress which may be available under the laws of the State. Any decision of the Project Manager shall be final and binding on the Contractor in the absence of written notice of protest from the Contractor received by the Owner by registered mail, within fifteen (15) days of the date of the decision of the Project Manager. The Owner shall have sixty (60) days from the date of receipt of a formal protest within which to investigate and make reply.

7.5 PERFORMANCE BOND AND PAYMENT BOND

7.5.1 Prior to the execution of the Contract, the Contractor shall furnish to the Owner, on forms acceptable to the Owner, surety bonds in the amounts and for the purposes provided in this Paragraph 7.5. Each bond must be signed by both the Contractor and the Surety. The current power of attorney for the person who signs for the surety company, indicating the monetary limit of such powers, must be attached to the bonds. The Contractor shall pay all premiums and cost thereof and incidental thereto. Such bonds shall be made payable to the Owner. The surety (or sureties) shall be corporate surety(ies) licensed to transact business in Alaska and acceptable to the Owner. Each bond shall be in an amount equal to the Contract Sum. The effective date of the bond shall be on the execution date of the

contract.

- 7.5.2 The "Performance Bond" shall be so conditioned as to assure the faithful performance by the Contractor of all Work under said Contract, within the time limits prescribed, including any maintenance provisions, in a manner that is satisfactory and acceptable to the Owner; that all materials and workmanship supplied by him will be free from original or developed defects; and that should original or developed defects or failures appear within a period of one year from the date of final acceptance of the Work by the Owner, the Contractor shall, at his own expense, make good such defects and failures and make all replacements and adjustments required, within a reasonable time after being notified by the Owner to do so. This bond shall be maintained by the Contractor in full force and effect during the performance of the Work of the Contractor and for a period of two (2) years after the date of final acceptance of the Work by the Owner.
- 7.5.3 The "Payment Bond" shall be so conditioned as to inure to the benefit of persons furnishing materials for or performing labor upon the Work. This bond shall be maintained by the Contractor in full force and effect until the Work is completed and finally accepted by the Owner, and until all claims for materials, labor and subcontracts are paid.
- 7.5.4 Should any surety or sureties upon said bonds become insufficient or be disqualified from doing business in Alaska, the Contractor shall renew said bond or bonds with good and sufficient sureties, acceptable to the Owner, within ten (10) work days after receiving notice that the surety or sureties are insufficient and/or disqualified. Should any surety or sureties be deemed unsatisfactory at any time by the Owner, notice will be given the Contractor to that effect, and he shall forthwith substitute a new surety or sureties satisfactory to the Owner. No further payment shall be deemed due or will be made under this Contract until the new sureties shall qualify and be accepted by the Owner.
- 7.5.5 In the event of any change order resulting in the performance of additional work in connection with the Work, the amounts of such bonds shall be increased by the cost of such additional work or materials or fixtures to be incorporated into the Project.

7.6 RIGHTS AND REMEDIES

- 7.6.1 The Contractor's duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 7.6.2 Except as may be specifically agreed in writing, the failure of the Owner, the Project Manager, or the Architect to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract, or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s), and the rights shall continue unchanged and remain in full force and effect.
- 7.6.3 The Contractor agrees that he can be adequately compensated by money damages for any breach of this Contract which may be committed by the Owner and hereby agrees that no default, act, or omission of the Owner, the Project Manager or the Architect, except for unauthorized failure to make payments as required by the Contract Documents, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of this Contract or (unless the Owner shall so consent or direct in writing) to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which he might otherwise be or become entitled, save only his right to money damages.

7.7 TESTS

- 7.7.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Architect and Project Manager timely notice, but not less than seventy-two (72) hours, of its readiness so the Architect and the Project Manager may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, tests or approvals except as provided in subparagraph 7.7.2. Notification, coordination and execution of all inspections and tests required by the Contract Documents or by the governing building department shall be the sole responsibility of the Contractor. The Owner shall not be responsible for any damage or delay caused by any Party's inability to make required inspections in the time frame desired by the Contractor.
- 7.7.2 Special Inspection and testing as required in accordance with IBC section 1704 shall be coordinated by the Contractor and the Owner shall bear all costs of Special Inspections or approvals. The Special Inspector, designated by the Owner, shall observe the Work assigned for conformance with the approved design drawings and specifications. The Project Manager may order additional Special Inspections, testing, or approval, as required by the authority having jurisdiction by providing notice to the Contractor. The Contractor shall provide notification and coordination for additional Special Inspections as provided in subparagraph 7.7.1. If such special inspection or testing reveals a failure of the Work to comply (1) with the requirements of the Contract Documents, or (2) with respect to the performance of the Work, with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof, including compensation of the Owner's administrative and legal expenses, and for the Architect's, the Project Manager's, and the Special Inspector's additional services made necessary by such failure.
- 7.7.3 Inspections and Tests required to establish compliance with the Contract Documents, as provided for in the Contract Documents, will be made by a qualified, independent testing agency approved by the Owner. The cost of the services of such agency will be paid by the Contractor, unless otherwise provided in the Contract Documents. When the initial tests indicate non-compliance with the Contract Documents, any subsequent retesting occasioned by non-compliance shall be performed by the same agency and the costs thereof borne by the Contractor. The Contractor shall provide facilities for such access to the Work in order that the agency may properly perform its functions. Representatives of the testing agency shall have access to the Architect, Project Manager, or Owner at all times.
- 7.7.4 Inspections or testing performed exclusively for the Contractor's convenience shall be the sole cost and responsibility of the Contractor.
- 7.7.5 The independent testing agency, employed as specified in the Technical portion of these specifications, shall prepare the test reports, logs, and certificates applicable to the specific inspections and tests and shall deliver, immediately or within forty-eight (48) hours, as applicable, the specified number of copies of same to the designated parties. Other required certificates of inspection, testing or approval shall be secured by the Contractor and delivered by him to the Project Manager and the Architect, in such time as to not delay progress of the Work or final payment therefor.
- 7.7.6 If the Architect, the Project Manager or the Special Inspector is to observe the inspections, tests or approvals required by the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction or that are required to establish compliance with the Contract Documents, he will do so promptly and, where

practicable, at the normal place of testing.

7.7.7 Unless otherwise stipulated in the Contract Documents, the Contractor shall pay for all utilities required for testing of installed equipment of all of his Work and work of each Subcontractor furnishing equipment. Labor and supervision required for making such tests shall be provided at no additional cost to the Owner.

7.7.8 Owner may provide Quality Assurance testing. Contractor shall provide knowledgeable support personnel and cooperate fully with Owner's designated representative in conducting all Quality Assurance tests. If project fails tests, Contractor shall make all necessary corrections to meet test criteria and pay the Owner for all costs associated with additional tests.

7.8 ALTERNATES

7.8.1 Alternates may be either additive or deductive.

7.8.2 Alternates, if taken, may be taken in any sequence.

7.8.3 The Contractor shall include in his bid, or bid proposal, a bid for all alternates listed in the Bid Form. These alternates shall include the Contractor's net cost of the labor, materials, overhead and profit, and equipment necessary to perform or delete, the Work as outlined by such alternates.

7.9 UNENFORCEABILITY OF ANY PROVISION

7.9.1 If any provision of the Contract is held as a matter of law to be unenforceable, the remainder of the Contract shall be enforceable without such provision.

7.10 NO WAIVER BY OWNER

7.10.1 The failure of the Owner in any one or more instances to insist upon the strict performance of any of the terms of this Contract or to exercise any option herein conferred, shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon such terms or option on any future occasion.

7.11 ASSIGNMENT OF CONTRACT

7.11.1 The Contractor shall not assign the responsibilities of this Contract, either as a whole or in part, nor assign any monies due or to become due to it hereunder, without previous written consent of the Owner.

END OF ARTICLE 7

ARTICLE 8

TIME

8.1 DEFINITIONS

- 8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial and Final Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.
- 8.1.2 The date of execution of the Contract Agreement between the Owner and Contractor shall be subsequent to School Board Approval and the Contractor's satisfactory submittals to the Owner of the Certificate of Insurance, the Performance Bond and the Payment Bond as noted in the Invitation to Bidders. The Owner will issue a Notice to Proceed no later than ten (10) days from execution of the Owner-Contractor Agreement by both Owner and Contractor. The date of commencement of the Work shall be the date established by the Notice to Proceed. The Owner shall not be responsible for any costs incurred by the Contractor prior to the Notice to Proceed.
- 8.1.3 The Date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Project Manager and Architect when the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract Documents, so the Owner can fully occupy and utilize the Work or designated portion thereof for the use for which it is intended, with all of the Project's parts and systems cleaned and operable as required by the Contract Documents. Only incidental corrective work and any final cleaning beyond that needed for the Owner's full use may remain for Final Completion.
- 8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated. All dates shall mean 12:01 a.m. of the indicated day unless otherwise stipulated.
- 8.1.5 The term "working day" as may be used in the Contract Documents shall mean any day not otherwise defined herein as a non-working day.
- 8.1.6 The term non-working day as may be used in the Contract Documents shall mean Sunday, a recognized holiday, a day on which the Contractor is specifically required to suspend construction operations or a day on which a suspension order is in effect. Recognized holidays shall be: New Year's Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Eve (half day), and Christmas Day. When any of the above days fall on a Saturday, the preceding Friday shall be counted as a holiday. When any of the above days fall on a Sunday, the following Monday shall be counted as a holiday.
- 8.1.7 The term "Beneficial Occupancy" is interchangeable with the term Substantial Completion.

8.2 PROGRESS AND COMPLETION

- 8.2.1 All times stated in the Contract Documents are of the essence of the Contract.
- 8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion and Final Completion in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof.
- 8.2.3 Attention is directed to the fact that the Work is urgently needed by the Owner and that time is of the essence; for this reason, it shall be agreed that the Contractor shall

substantially complete all Work under the Contract in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof and, that he will complete the contract in all its details for final acceptance as specified after Substantial Completion.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 The Contractor shall be entitled to extensions in the time required for performance of the Work as specifically provided in the Contract. Except as otherwise specifically provided under Paragraph 3.4., 12.1, or 8.3.5, the Contractor shall not be entitled to payment or compensation of any kind from the Owner for direct, indirect, impact or consequential damages, including but not limited to costs of acceleration because of hindrance or delay or loss of labor or equipment efficiency or productivity arising out of any hindrance, interference, obstruction, disruption or delay from any source or cause whatsoever, whether such hindrance, interference, obstruction, disruption or delays be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable.

8.3.2 The Contract Time may be adjusted only for changes pursuant to Paragraph 12.1, suspension of Work pursuant to Paragraph 3.4. and delays pursuant to Subparagraph 8.3.3.

8.3.3 Types of delay shall be defined as follows:

8.3.3.1 Actions or inactions of the Owner, or events for which the Owner has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current contractually established date of Substantial Completion shall be designated as Compensable delays.

8.3.3.2 Events which are outside the control of, and without the fault or negligence of either the Owner or the Contractor, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Excusable delays, as follows:

8.3.3.2.1 Labor disputes and strikes (including strikes affecting transportation), that do, directly and critically affect the progress of the Work; however, any extension of Contract Time on account of an individual labor strike shall not exceed the number of days of said strike.

8.3.3.2.2 Acts of God, tornado, fire, hurricane, blizzard, earthquake, typhoon, or flood that damage completed work or stored materials.

8.3.3.2.3 The Contract Time will not be extended due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Owner that the weather actually encountered by the Contractor was unusually severe considering the full term of the Contract Time using a ten (10) year average of accumulated record mean values from climatological data compiled by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration for the locale of the Project and that such alleged substantially greater than normal inclement weather actually delayed the Work or portions thereof which had an effect upon the Contract Time, the Contractor shall not be entitled to an extension of time.

8.3.3.2.4 Acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, and acts of another contractor in the performance of a contract with the Owner relating to the Project.

8.3.3.3 Actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Non-excusable delays.

8.3.3.4 Concurrent delay is any combination of the above three types of delay occurring on a calendar date, except in cases where the combination consists of two or more instances of the same type of delay occurring on a calendar date.

A delay to the Contractor caused by the acts of another contractor under contract to the Owner will be classified as a compensable delay to the extent said delay meets the requirements of compensable delay as set forth under Subparagraph 8.3.3.1. Also, it is the Owner's belief that the definitions of delay as included in this paragraph comply with all applicable law in the State of Alaska.

8.3.4 Any claim for extension of time shall be made in writing to the Project Manager not more than seven (7) calendar days after commencement of the delay; otherwise it shall be waived. The Contractor shall also provide an estimate of the probable effect of such delay on the progress of the Work. In the case of a continuing delay only one claim is necessary. Any event, action, inaction, or other cause which may give rise to a delay shall constitute a basis for adjustment in:

8.3.4.1 Contract Time, only if it can be demonstrated that the date of Substantial Completion will be delayed beyond the current Contract Completion Date and that the delay is classified as only a Compensable, Excusable, or Concurrent Delay. The Contract Time shall be adjusted by Change Order pursuant to the requirements of Paragraph 8.3 and Division 1, Section 01311; or

8.3.4.2 Contract Amount, only if it can be demonstrated that the Contractor's time-related costs to complete the Work will be increased and the delay is classified as only a Compensable Delay. The Contract Sum shall be adjusted by Change Order pursuant to the requirements of Subparagraphs 8.3 and 12.3.

8.3.5 All time limits stated in the Contract Documents are of the essence of this Contract. The failure of the Contractor to complete the Work in conformance with the Contract shall result in damages suffered by the Owner due to delays in completion of the Work.

8.3.5.1 If the Contractor fails to substantially complete the Work in conformance with the Contract Documents and the Owner nevertheless permits the Contractor to continue performance of the Work, such permission shall neither modify nor waive the Owner's right to assess and collect, and the Contractor's obligation to pay liquidated damages.

8.3.5.2 The Owner shall be entitled to claim against the Contractor for any liquidated damages incurred. The Owner cannot anticipate at this time what liquidated damages may occur or what the per diem cost of these damages might be. Determination of liquidated damage details will be a matter of proof should the issue arise.

- 8.3.5.3 The Owner shall recover said liquidated damages by deducting the amount thereof from any monies due or that may become due the Contractor. In the event the remaining balance due the Contractor is insufficient to cover the full amount of assessed damages, then the Contractor or his Surety shall pay the amount due and the Owner shall be entitled to any and all rights and remedies available to it in law or equity to recover same.

8.4 RESPONSIBILITY FOR COMPLETION

- 8.4.1 The Contractor shall furnish such manpower, materials, facilities and equipment and shall work such hours, including night shifts, overtime operations and Sundays and holidays, as may be necessary to insure the progress and completion of the Work in accordance with the accepted and currently updated progress schedule. If Work actually in place falls behind the currently updated and accepted progress schedule and it becomes apparent from the current schedule that the Work will not be completed in accordance with the Contract Time, the Contractor agrees that he will, as necessary, take some or all of the following actions at no additional cost to the Owner, as required to substantially eliminate the schedule slippage deficiency:
- 8.4.1.1 Increase manpower in such quantities and crafts as will substantially eliminate in the opinion of the Project Manager the schedule slippage deficiency;
- 8.4.1.2 Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment, or any combination of the foregoing sufficiently to substantially eliminate, in the opinion of the Project Manager the schedule slippage deficiency; and,
- 8.4.1.3 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.
- 8.4.2 The Project Manager may require the Contractor to submit a recovery schedule in accordance with Section 01311 of the Specifications, demonstrating his program and proposed plan to make up the slippage in scheduled progress and to ensure completion of the Work in accordance with the requirements of the Contract. If the Project Manager finds the proposed plan not acceptable, he may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are not satisfactory, the Project Manager may require the Contractor to take any of the actions set forth in this Paragraph 8.4 without additional cost to the Owner, to make up the slippage in scheduled progress.
- 8.4.3 Failure of the Contractor to substantially comply with the requirements of this Paragraph 8.4 may be considered grounds for a determination by the Owner, pursuant to Clause 14.1, that the Contractor is failing to prosecute the Work with sufficient diligence to ensure its in accordance with the Project Milestone Dates set forth under Section 00200 hereof.

END OF ARTICLE 8

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

- 9.1.1 The Contract Sum is stated in the Owner-Contractor Agreement and, including authorized adjustments thereto, is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

- 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Owner, through the Project Manager, a schedule of values allocated to the various portions of the Work, as set forth in Division 1, Section 01370 of the General Requirements entitled "Schedule of Values" and supported by such data to substantiate its accuracy as the Architect, Project Manager and the Owner may require. This schedule, unless objected to by the Architect, Owner, or Project Manager, may be used as a basis for the Contractor's Applications for Payment except as otherwise noted under Division 1, Section 01311. The Schedule of Values shall be prepared in such a manner that each major item of work and each subcontracted item of work is shown as a single item on the Application and Certificate of Payment.

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1 Prior to the date for each progress payment established in the Contract Documents, the Contractor, in accordance with Division 1, Section 01311 of the General Requirements entitled "Project Schedule," shall submit to the Project Manager an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the Project Manager and the Architect may require, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. The form of Application for Payment shall be Anchorage School District Forms 100, 100A, 100B and 100C and the computer-produced Cost Report updated in accordance with Division 1, Section 01311.
- 9.3.2 If the Project Manager finds that satisfactory progress is not being made, he may require retainage of up to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Project Manager finds that satisfactory progress is being made.
- 9.3.3 Payments may be authorized by the Project Manager at his discretion, on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site by the Contractor. Payments for materials or equipment stored on the site shall only be considered upon submission by the Contractor of satisfactory evidence that he has acquired title to such material, that it will be utilized on the Work under this Contract and that it is satisfactorily stored, protected, and insured or that other procedures satisfactory to the Project Manager that will protect the Owner's interests have been taken.
- 9.3.4 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise

imposed by the Contractor or such other person.

9.4 APPROVAL OF PAY APPLICATION

- 9.4.1 The Project Manager will, after receipt of the Contractor's Application for Payment, and within the time set forth in Division 1, Section 01311 of the General Requirements entitled "Project Schedule," either approve the Application for its full amount or notify the Contractor in writing of his reasons for withholding approval, in whole or in part, as provided in Subparagraph 9.6.1.
- 9.4.2 The submission and acceptance of the Contractor's Preliminary and Detailed Progress Schedules and monthly updates thereof as required by Division 1, Section 01311 of the General Requirements entitled "Project Schedule," shall be an integral part and basic element of the application upon which progress payments shall be made. If in the judgment of the Project Manager the Contractor fails or refuses to provide information required to accomplish a complete Project Schedule Update or revision thereto as specified under Division 1, Section 01311 of the General Requirements, the Contractor shall be deemed to have not provided the information necessary to enable the Project Manager and the Architect to properly evaluate the Contractor's progress, and shall not be entitled to progress payments until it has furnished the information necessary for a complete Project Schedule Update or revision thereto as specified herein to the satisfaction of the Project Manager.
- 9.4.3 The signing of an Application for Payment will constitute a representation by the Project Manager and the Architect, based on their observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated; that, to the best of their knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in their Certificate); and that the Contractor is entitled to payment in the amount certified. However, by approving an Application for Payment, the Project Manager and the Architect shall not thereby be deemed to represent that either has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work or that either has reviewed the construction means, methods, techniques, sequences or procedures, or that either has made an examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

- 9.5.1 After an Application for Payment has been approved, the Owner shall make payment within thirty (30) calendar days.
- 9.5.2 The Contractor shall promptly pay each Subcontractor (including suppliers, laborers, and material-men) performing labor or furnishing material for the Work, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, also require each Subcontractor to make payments to his Sub-subcontractors in similar manner.
- 9.5.3 The Owner may, on request and at his discretion, furnish to any Subcontractor, Sub-subcontractor, or Material Supplier and Vendor, if practicable information regarding the

percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Project Manager on account of Work done by such Subcontractor, Sub-subcontractor, or Material Supplier or Vendor.

- 9.5.4 Neither the Owner, the Project Manager, nor the Architect shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as may otherwise be required by law.
- 9.5.5 No approval for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the Project by the Owner, shall constitute an acceptance of any Work not in accordance with the Contract Documents.
- 9.5.6 The Contractor agrees to keep the Work and the site(s) on which Work is to be performed free and clear of all liens and claims of liens on materials furnished pursuant to the Contract Documents. Contractor hereby waives any right it may have in connection with the Work to file any liens, mechanics or otherwise. Notwithstanding anything to the contrary contained in the Contract Documents, if any such lien is filed or there is any reason to believe that any lien may be filed at any time during the progress of the Work or within the duration of this Contract, the Owner may refuse to make any payment otherwise due to Contractor or withhold from any payment due the Contractor a sum sufficient in the opinion of the Owner to pay all obligations and expenses necessary to satisfy such lien or claim and completely indemnify the Owner against any such lien or claim unless and until Contractor shall thereof, if any, has been satisfied, discharged and released of record or that the Contractor has caused such lien to be released or record if and as provided by law pending the resolution of any dispute between Contractor and the person filing such lien; and if such evidence is not furnished by Contractor to the Owner within a period of five (5) days after demand to do so, the Owner may discharge such indebtedness and deduct the amount required therefore, together with any and all losses, costs, damages and attorney's fees suffered or incurred by the Owner from any sum payable to Contractor under the Contract Documents. Final payment to Contractor may be withheld until the Work and the site(s) on which the Work is to be performed are free and clear of any and all liens for rights thereto arising because of Work performed or materials furnished under the Contract Documents. This Subparagraph 9.5.6 shall be specifically included in all subcontracts and purchase orders entered into by Contractor.
- 9.5.7 No reference to a claim or claims of lien or to the Owner's right to withhold payments to the Contractor or to discharge the Contractor's debts to Subcontractors, in Subparagraph 9.5.6, or elsewhere in the Contract Documents, shall be interpreted as a waiver of the Owner's right to exemption pursuant to AS 09.38.015(c) or any requirements with regard to the filing of claims of lien as set forth in AS 34.35.

9.6 PAYMENTS WITHHELD

- 9.6.1 The Architect and the Project Manager may decline to approve an Application for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in their opinion they are unable to make representations to the Owner as provided in Subparagraph 9.4.3. If the Project Manager and the Architect are unable to make representations to the Owner as provided in Subparagraph 9.4.3 and to certify payment in the amount of the Application, they will notify the Contractor as provided in Subparagraph 9.4.1.

If the Contractor, Project Manager and the Architect cannot agree on a revised amount, the Project Manager will promptly approve the Application for Payment for the amount for which he is able to make such representations to the Owner. The Project Manager may also decline to certify payment or, because of subsequently discovered evidence or

subsequent observations, he may nullify the whole or any part of any approval of an Application for Payment previously issued to such extent as may be necessary in his opinion to protect the Owner from loss because of:

- 9.6.1.1 Defective work not remedied,
- 9.6.1.2 Third-party claims filed or reasonable evidence indicating probable filing of such claims,
- 9.6.1.3 Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment,
- 9.6.1.4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum,
- 9.6.1.5 Damage to the Owner or another contractor,
- 9.6.1.6 Reasonable evidence that the Work will not be completed within the Contract Time,
- 9.6.1.7 Failure or refusal of the Contractor to carry out the Work in accordance with the Contract Documents, including scheduling, project management, or coordination requirements,
- 9.6.1.8 Liens filed for any portion of the Work, or
- 9.6.1.9 Failure or refusal of the Contractor to fully comply with Division 1, Section 01311 of the General Requirements entitled "Schedules and Reports".

9.6.2 When the above grounds in Subparagraph 9.6.1 are removed, payment shall be made for amounts withheld because of them.

9.7 FAILURE OF PAYMENT

9.7.1 If the Owner does not pay the Contractor within seven (7) days after the date established in the Contract Documents any amount certified by the Architect and the Project Manager, then the Contractor may, upon seven (7) additional days' written notice to the Owner and the Architect, stop the Work until payment of the amount not in dispute has been received. The Contractor shall not refuse or fail to diligently proceed with the Work pending the resolution of any amount(s) in dispute unless agreed to by the Owner.

9.8 SUBSTANTIAL COMPLETION

9.8.1 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Subparagraph 8.1.3, the Contractor shall prepare for submission to the Project Manager a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect and the Project Manager on the basis of an inspection jointly determine that the Work or designated portion thereof is substantially complete, the Architect will then prepare a Certificate of Substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, correction of punchlist items and damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall

commence on the Date of Substantial Completion of the work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

- 9.8.2 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Project Manager and the Architect, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof, as provided in the Contract Documents.
- 9.8.3 The acceptance of Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the Application for Payment for Substantial Completion, and except for the retainage sums due at final acceptance if any.

9.9 FINAL COMPLETION AND FINAL PAYMENT

- 9.9.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect and the Project Manager will promptly make such inspection and, when they find the Work acceptable under the Contract Documents and the Contract fully performed, they will jointly issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, as noted in said final Certificate, is due and payable. The final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.8.2 have been fulfilled.
- 9.9.2 Neither the final payment nor the remaining retained percentage shall become due until the Work is free and clear of any and all liens and the Contractor submits to the Owner (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3), if required by the Project Manager, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Project Manager. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any loss. If any such lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien or claim, including all costs and reasonable attorney's fees. The Owner may withhold from the final payment any sum that the Owner has reason to believe may be needed to satisfy any lien, claim or threat of lien arising from the Work. The Owner may deduct from the final payment an amount equal to any costs, expenses and attorneys' fees incurred by the Owner in removing or discharging any liens arising from the Work.
- 9.9.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, or by the issuance of change orders affecting final completion, and the Owner so confirms, the Owner shall, upon application by the Contractor and certification by the Project Manager and the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as provided in Paragraph 7.5, the written consent of the surety to the

payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Project Manager prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

- 9.9.4 The making of final payment shall constitute a waiver of all claims by the Owner against the Contractor except those arising from:
 - 9.9.4.1 Unsettled liens, and claims against the Owner, the Project Manager, or the Architect, or their employees, agents, or representatives,
 - 9.9.4.2 Faulty or defective Work appearing after Substantial Completion,
 - 9.9.4.3 Failure of the Work to comply with the requirements of the Contract Documents,
 - 9.9.4.4 Terms of any warranties contained in or required by the Contract Documents,
 - 9.9.4.5 Liquidated damages due the Owner for the Contractor's delay in completion, or
 - 9.9.4.6 Damages incurred by the Owner resulting from lawsuits brought against the Owner, the Project Manager, the Architect, or their agents, employees or representatives because of failures or actions on the part of the Contractor, his Subcontractors, Sub-subcontractors, Material Suppliers and Vendors, or any of their employees, agents or representatives.
- 9.9.5 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.
- 9.9.6 Final Completion includes, but is not limited to, the Contractor obtaining an unconditional Certificate of Occupancy from the governing building official.
- 9.10 OWNER'S RIGHT TO OCCUPY INCOMPLETE WORK
 - 9.10.1 Should the Project, or any portion thereof, be incomplete for Beneficial Occupancy or Final Completion at the scheduled date or dates, the Owner shall have the right to occupy any portion of the Project. In such an event, the Contractor shall not be entitled to any extra compensation on account of said occupancy by the Owner or by the Owner's normal full use of the Project, nor shall the Contractor interfere in any way with said normal full use of the Project. Further, in such an event, the Contractor shall not be entitled to any extra compensation on account of the Owner's occupancy and use of the Project, nor shall the Contractor be relieved of any responsibilities of the Contract including the required times of completion. Such occupancy by the Owner would not, in itself, constitute Beneficial Occupancy nor Final Completion.
 - 9.10.2 If the Owner exercises his rights under the foregoing and occupies the full project, then there shall be no liquidated damages due to delay on account of failure on the Contractor's part to provide Beneficial Occupancy from that date forward. This provision does not affect, however, any damages due to delay that would be assessed for any period of time between the scheduled date of Beneficial Occupancy and the date of any such actual occupancy. Further, this provision would have no effect on actual damages assessed on account of late Final Completion.

9.11 RETENTION AND INSPECTION OF RECORDS

9.11.1 Inspection.

The Anchorage School District, or any of its duty authorized representatives, shall have the right to examine all project records and documents, including without limitation, all books, correspondence, reports, analyses, instructions drawings, receipts, vouchers, memoranda, and all financial and accounting books, records, and data and all other documents of both the Contractor and the Contractors, Subcontractors and any Sub-subcontractors which are directly pertinent to this specific Contract for the purpose of making an audit, examination, reproduction, excerpts, or transcriptions. All required records shall be retained by the Contractor and its first tier Subcontractors for three (3) years after the Owner makes final payments and all other pending matters are closed.

9.11.2 Retention and Maintenance.

The Contractor shall keep and maintain in safe condition full and accurate records of all costs incurred and items billed and all other project records and documents relating to performance, communications, and correspondence in connection with the performance of the Work under this Contract, which records and documents shall be open to review, examination or audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after Final Payment and all other pending matters are closed.

9.11.3 Subcontractor Records.

The Contractor shall make it a condition of all subcontracts and sub-subcontracts relating to the Work under this Contract that any and all Subcontractors and sub-subcontractors will keep accurate records of costs incurred and items billed in connection with their work and that such records shall be open to review, examination, reproduction or audit by the Owner or its authorized representatives during performance of the Work and until three (3) years after Final Payment under the subcontract and all other pending matters are closed.

9.11.4 Availability.

The Contractor shall make available at its business office upon request at all reasonable times the materials described in this Article including materials of both the Contractor and its first tier Subcontractors, for review, examination reproduction or audit for a period of three (3) years after Final Payment under this Contract and all other pending matters are closed.

9.11.5 Termination.

If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for three (3) years after any resulting final termination settlement.

9.11.6 Claims and Appeals.

Records pertaining to any settlement, mediation, arbitration, litigation or appeals of claim submitted pursuant to Paragraphs 12.4 or 12.5 or otherwise arising from or relating to the performance of Work under this Contract shall be made available until such settlement, mediation, arbitration, litigation, or appeals are finally concluded. Such documents or records shall be made available to the Anchorage School District or its duty authorized representatives within thirty (30) days of the Anchorage School District's request.

9.11.7 Subcontracts.

The Contractor shall include the provisions of this Article in all first tier Subcontracts so as to be binding on all first tier Subcontractors.

9.11.8 Cost or Pricing Data.

If the Contractor has submitted cost or pricing data in connection with the pricing of any change order or modification to this Contract - unless the pricing was based on—

- 9.11.8.1 adequate price competition, or
- 9.11.8.2 established catalog or market price of commercial items sold in substantial quantities to the general public; or
- 9.11.8.3 prices set by law or regulation -

the Anchorage School District or a representative who is an employee of the Anchorage School District, shall have the right to examine and audit all books, records, documents, and other data of the Contractor, including computations and projections, related to negotiating, pricing, or performing the change order or modification, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data.

END OF ARTICLE 9

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Owner, the Project Manager, the Architect, or their agents, employees or representatives are not responsible for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in accordance with the Work. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

10.2.1.1 All employees on the Work and all other persons who may be affected thereby;

10.2.1.2 All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and

10.2.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.2.2.1 The Contractor shall contact the State Historic Preservation Office (907-269-8700) immediately, should cultural or paleontological resources be discovered as a result of performing the Work.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy all damage or loss to any property referred to in paragraphs 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, any Material Supplier or Vendor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under paragraphs 10.2.1.2 and 10.2.1.3, except damage or loss attributable to the acts or omissions of the Owner, Project Manager or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 4.18.

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- 10.2.6 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner through the Project Manager.
- 10.2.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.
- 10.2.8 Following the Notice to Proceed, the Contractor is required to obtain facility keys and the security system access code from ASD Operations Department and obtain the facility keys by contacting the Project Manager.
- 10.2.8.1 A unique security code will be assigned to the Contractor. The ASD Operations office, 1301 Labar, will assign the code and provide access training.
- 10.2.8.2 The Contractor's signature on the key receipt acknowledges liability for the Owner's loss or damage due to unauthorized access with the facility key(s) and/or access code issued to the Contractor. The Contractor's Superintendent is solely responsible for the opening and closing of the facility.
- 10.2.8.3 Lost or stolen key(s) issued to the Contractor are to be reported immediately to the Project Manager. A written report shall be required for each incident.
- 10.2.8.4 If a FOB is issued, instead of keys, and is lost or stolen, the Contractor is required to immediately report the loss to the Project Manager. Notice is to be completed, in writing, within 12 hours or there will be a \$500 fine.
- 10.2.8.5 Upon completion of the Project and prior to final payment, the Contractor will return all key(s) to the Project Manager. A maximum per facility charge of up to \$10,000 may apply to any key not returned to the Project Manager.
- 10.2.8.6 Do not put any identifying tags or markers on the keys that would identify them as ASD building keys.

10.3 EMERGENCIES

- 10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 8 for Time, and Article 12 for Changes in the Work.

END OF ARTICLE 10

ARTICLE 11

INSURANCE

11.1 GENERAL

11.1.1 Before signing this Contract, or commencing work on any project or allowing any Subcontractor to commence work, the Contractor shall obtain all insurance required under this section. The Contractor shall maintain this insurance until Final Acceptance. Proof of Insurance will be required prior to performing work under the warranty. The Contractor shall file with Owner as verification of insurance, an original signed certificate of insurance showing the type and amounts of insurance, the policy number, and expiration date. The Contractor shall provide copies of each insurance policy if requested by the Owner. The Contractor shall purchase insurance from companies reasonably acceptable to the Owner and authorized to do business in the State of Alaska, possessing a Best's policyholder's rating of A- or better and a financial rating of not less than VII.

11.2 WORKERS' COMPENSATION INSURANCE

11.2.1 The Contractor shall purchase and maintain during the life of this Contract, Workers' Compensation Insurance for all employees who will work on this project and if any work is sublet, the Contractor shall require the Subcontractor to provide similar Workers' Compensation Insurance for employees. Such workers' compensation insurance shall meet the statutory requirements of the State of Alaska.

11.3 PUBLIC AND EMPLOYER LIABILITY INSURANCE

11.3.1 The Contractor and his Subcontractors, if any, shall purchase and maintain such Public and Employer Liability Insurance as will protect the Contractor against loss which may result from claims for damages from operations under this Contract, whether such operations be those of the Contractor, a Subcontractor, or any person directly or indirectly employed by them. Such liability insurance shall have a scope of coverage at least as broad as the current ISO form # CG 0001 (occurrence version) for General Liability and the current ISO form # CA 0001 for Automobile Liability, and in minimum limits specified in Paragraph 11.3.2.

11.3.2 Public and Employer Liability Insurance Requirements

11.3.2.1 Commercial General Liability

Combined Single Limit \$1,000,000
Annual Aggregate \$2,000,000

11.3.2.2 Comprehensive Auto Liability

Including all owned, hired and non-owned vehicles.
Combined Single Limit \$1,000,000 each accident

11.3.2.3 Employer's Liability Insurance
\$1,000,000 limit

11.3.3 Umbrella Liability

11.3.3.1 The Contractor shall maintain an umbrella liability policy according to the following:

Projects < \$10 million construction cost – \$5,000,000 per occurrence and annual aggregate.

Projects > \$10 million construction cost – \$10,000,000 per occurrence and annual aggregate.

This requirement does not apply to Subcontractors.

- 11.3.3.2 Umbrella liability insurance shall be maintained in effect until final acceptance by the Owner of the completed construction, and for products liability and completed operations liability, a minimum of two years thereafter.

11.4 BUILDERS RISK INSURANCE

- 11.4.1 The Contractor shall purchase and maintain an all risk Builder's Risk policy on all construction projects. The Builders Risk coverage shall be in an amount equal to the initial contract, plus any contract modifications, and the cost of materials supplied or installed by others. Perils insured must be all physical loss and will include earthquake, flood, testing and startup, resultant damage from errors in design, plans or specifications, and transit and offsite storage.
- 11.4.2 A loss insured under Subparagraph 11.4.1 shall be adjusted by the Insurer, or by the Contractor as Fiduciary, and made payable to the Contractor as Fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Subparagraph 11.4.5. The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor, and by appropriate agreement, written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.
- 11.4.3 The Owner and Contractor shall waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Paragraph 11.4 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Contractor as Fiduciary. The Contractor shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Owner and the Contractor by Subcontractors and Sub-subcontractors. With respect to the waiver of rights of recovery, the term Owner shall be deemed to include, to the extent covered by property insurance applicable thereto, his consultants, employees, agents and representatives, including the Project Manager. The Contractor waives as against any separate Contractor described in Article 6 all rights for damages caused by fire or other perils in the same manner as is provided above as against the Owner. The Owner shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Contractor by any separate Contractor and his Subcontractors and Sub-subcontractors.
- 11.4.4 If required in writing by any party in interest, the Contractor as Fiduciary shall, upon the occurrence of an insured loss, give bond for the proper performance of his duties. He shall deposit in a separate account any money so received, and he shall distribute it in accordance with a court order or award. If after such loss no other special agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.
- 11.4.5 The Contractor as Fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five (5) days after the occurrence of loss to the Owner's exercise of this power, and if such objection is made, the matter shall be decided by a court of competent jurisdiction or as parties in interest

otherwise agree. The Contractor as Fiduciary shall, in that case, make settlement with the insurers accordingly.

- 11.4.6 If the Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion thereof, such occupancy shall not commence prior to a time mutually agreed to by the Owner and Contractor and to which the insurance company or companies providing the property insurance have consented by endorsement of the policy or policies. This insurance shall not be canceled or lapsed on account of such partial occupancy. Consent of the Contractor and of the insurance company or companies to such occupancy or use shall not be unreasonably withheld.

11.5 CERTIFICATE OF INSURANCE REQUIREMENTS

- 11.5.1 Each insurance policy required in this section will be evidenced by a certificate of insurance which contains the following:

- 11.5.1.1 Notice of cancellation to the Anchorage School District in accordance with Alaska Statutes 21.36.220 and .260.
- 11.5.1.2 Contract number.
- 11.5.1.3 Project location.
- 11.5.1.4 Waiver of Subrogation. All policies, except where prohibited, will include a Waiver of Subrogation in favor of the District.
- 11.5.1.5 Additional Insured. All policies except Workers Compensation and professional liability will note the District as an additional insured.

11.6 OWNER'S RIGHT TO INSURE

- 11.6.1 In the event Contractor neglects, refuses, or fails to provide the insurance required under the Contract Documents, or if such insurance is canceled for any reason, the Owner shall have the right, but not the duty to procure the same, and the costs thereof shall be deducted from monies then due or thereafter to become due the Contractor.

11.7 ADDITIONAL INSURANCE

- 11.7.1 If not covered by the above insurance, the Contractor must obtain additional Insurance for items stored off-site or in transit. Payments for materials stored off-site will not be made unless Contractor provides documentation of valid insurance coverage for same.

11.8 ASBESTOS ABATEMENT SUBCONTRACTOR'S CERTIFICATE OF INSURANCE

- 11.8.1 After the Intent to Award Notification, the low bidder shall submit an insurance binder of insurance certificate provided by the proposed asbestos abatement subcontractor's insurance company stating that upon execution of the Contract the types and amount of insurance required elsewhere in these specifications will immediately become effective.

The asbestos abatement subcontractor is required to carry a minimum of \$1,000,000 of General Public Liability Insurance with no exclusion for asbestos abatement.

- 11.8.2 Comprehensive General Liability Minimum Limits

Bodily Injury and Property Damage \$2,000,000 per occurrence
Premises Operations

Independent Contractors
Products - Completed Operations
Contractual Liability
Broad Form Property Damage - Lloyds Form
Explosion, Collapse, and Underground
Personal Injury

11.8.3 Comprehensive Auto Liability

Including all owned, hired, and non-owned vehicles
Combined single limit per accident \$1,000,000

END OF ARTICLE 11

ARTICLE 12

CHANGES IN THE WORK AND CONTRACT SUM AND TIME

12.1 CHANGES IN THE WORK

12.1.1 The Owner may, at any time, without notice to the sureties, make any change in the Work within the general scope of the Contract, including, but not limited to changes:

12.1.1.1 In the Specifications or Drawings;

12.1.1.2 In the method or manner of performance of the Work;

12.1.1.3 In the Owner-furnished facilities, equipment, materials, services or site; or

12.1.1.4 Directing acceleration in the performance of the Work for reasons other than delays caused by the Contractor.

12.1.2 All such changes in the Work shall be performed under the applicable conditions of the Contract Documents and shall be authorized in one of the following manners:

12.1.2.1 Field Directive. The Project Manager may issue a written Field Directive to the Contractor that directs a change in the Work. If the Contractor believes that the requested change will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.

12.1.2.2 Information Bulletin. The Architect may issue an Information Bulletin to the Contractor that clarifies or modifies the plans or specifications. If the Contractor believes that the clarification or modification of plans or specifications will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.

12.1.2.3 Request for Information (RFI). The Contractor may submit a RFI to the Project Manager or Architect using the ASD Procore Construction Management Program to request clarification of plans or specifications or to point out areas of apparent conflict or other concerns relating to the Work. The response to the RFI by the Architect or Project Manager may clarify or modify the plans or specifications. If the Contractor believes that the clarification or modification of plans or specifications will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the change.

12.1.2.4 Request for Proposal (RFP). The Owner may issue an RFP to the Contractor that directs a change in the Work and requests the Contractor's evaluation of the impact of the change on Contract Time or Contract Sum. If the Contractor believes that the Work required by the RFP will increase the Contract Time or Contract Sum, he must notify the Project Manager in writing prior to implementing the changes.

12.1.3 Except as provided in Subparagraph 12.1.2, no order, statement or conduct of the Owner, Project Manager or Architect shall be treated as a change or entitle the Contractor to an equitable adjustment hereunder. No oral agreement of any kind shall be construed as a Change Order.

12.2 AMENDING CONTRACT SUM OR TIME

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- 12.2.1 If any change under Paragraph 12.1 causes an increase or decrease in the Contractor's cost or the time required for the performance of any part of the Work under the Contract, including Work not affected directly by the change, an equitable adjustment shall be processed and approved following the provisions of Division 1, Section 01311, Project Schedule for any adjustment to time. Adjustments to Contract Sum shall be determined in one or more of the following ways:
- 12.2.1.1 By mutual acceptance of a lump sum price properly itemized in accordance with Subparagraph 12.2.2 and supported by sufficient data to permit evaluation;
 - 12.2.1.2 In the event that unit prices are included in the bid and accepted by the Owner, payment for the Work performed shall be at the unit price amount for each item of Work accepted by the Owner and conforming to the contract requirements. Such prices shall be additive and deductive and include all costs necessary to complete the Work, inclusive of overhead costs and profit.
 - 12.2.1.3 If prior to the commencement of the Work the Contractor has not provided a lump sum price, or the Contractor and the Owner have not agreed on a lump sum price as described in Subparagraph 12.2.1.1 above, the price shall be established in one of the following ways, as determined by the Project Manager;
 - 1. on a lump sum basis following completion of the Work. The lump sum price shall be properly itemized in accordance with Subparagraph 12.2.2. and supported by sufficient data to permit evaluation;
 - 2. on a time and materials basis, with or without a maximum not-to-exceed price, at the discretion of the Project Manager. Costs will be accumulated on a time and materials basis as described in Subparagraph 12.2.3 and presented daily (the day after the Work is performed) for approval by the Owner on the forms provided by the Owner. The daily report will be signed by the Contractor and the Owner.
- 12.2.2 For Work proceeding on a lump sum basis. In accordance with Subparagraph 12.2.1.1 or 12.2.1.3.1, the Contractor shall provide a detailed breakdown of the costs as described herein and submit the costs and substantiating data in a proposal to the Owner:
- 12.2.2.1 Direct Costs: Direct costs shall be limited to the following: cost of materials, including sales tax and cost of delivery to the project; cost of labor (from apprentice level up through and including the general foreman classification) comprising of the base wage plus fringe benefits, including burden (Social Security, Worker's Compensation, and Unemployment Insurance, etc.); rental rate including fuel and maintenance for any power tools valued at over \$3,000 and equipment as described below, under "Equipment Rates;" bond premiums and additional cost of Builder's Risk Insurance, at rates equal to the amount billed for the base contract or the actual rate as supported by an invoice.
 - 12.2.2.1.1 Equipment Rates: For any machinery or special equipment (other than small tools) which has been authorized by the Project Manager, the Contractor shall receive the rental rates in the current edition and appropriate volume of the "Rental Rate Blue Book for Construction Equipment," published by K-III Directory Corp., 10 Lake Drive, Highstown, NJ 08520-5397.

Hourly rental rates shall be determined as follows. The established hourly rental rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor, plus the estimated hourly operating costs. The adjusted monthly rate is that resulting from application of the rate adjustment formula in order to eliminate replacement cost allowances in machine depreciation and contingency cost allowances. Attachments shall not be included unless required for the time and materials Work. For equipment not listed in the Blue Book, the Contractor shall receive a rental rate as agreed upon before such Work is begun. If agreement cannot be reached, the Owner reserves the right to establish a rate based on similar equipment in the Blue Book or prevailing commercial rates in the area. These rates shall apply for equipment used during the Contractor's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the Contractor's normal Work or on time and materials, and either on single or multiple shifts, an overtime rate, computed as follows, shall apply: The hourly overtime rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

- 12.2.2.1.2 Equipment which must be rented or leased specifically for Work required under this section shall be authorized in writing by the Project Manager.
- 12.2.2.1.3 When it is necessary to obtain equipment from sources beyond the project limits exclusively for time and materials Work, the actual cost of transferring the equipment to the site of the Work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the Contractor hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. In the event that the equipment is transferred under its own power, the moving allowance will be limited to one-half of the normal hourly rental rate plus operator's wages. In the event that the move-out is to a different location, payment will in no instance exceed the amount of the move-in. Move-in allowance shall not be made for equipment brought to the project for time and materials Work which is subsequently retained on the project and utilized for completion of contract items, camp maintenance, or related Work.
- 12.2.2.1.4 Equipment ordered to be on stand-by basis shall be paid for at the stand-by rental rate for the number of hours in the Contractor's normal Work shift, but not to exceed 8 hours per day. The stand-by rental rate shall be computed as follows:

The hourly stand-by rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, all multiplied by the

area adjustment factor.

Time will be recorded to the nearest one-half hour for purposes of computing compensation to the Contractor for equipment utilized under these rates.

The equipment Direct Cost determination covers all costs for providing required equipment and no additional compensation will be made for other costs such as, but not limited to, fuels, lubricants, replacement parts or maintenance costs. Cost of repairs, both major and minor as well as charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

12.2.2.2 Overhead: Overhead shall include the following: the Contractor's management staff; supervision; superintendence; wages of timekeepers; watchmen and clerks; small tools; incidentals; costs of preparing and responding to Request for Proposals, including estimating; schedule revisions, software costs and clerical expenses; general home and field office expenses; including any financial/financing costs; legal costs; and/or accounting costs; temporary facilities; temporary utilities (power, water, sewer, telephone, etc.) And any utilities used by the Contractor during the construction period; and all other expenses not specifically defined in Subparagraph 12.2.2.1 as direct costs. Unless specifically required or requested, any travel and associated costs from outside of the Municipality of Anchorage is considered as part of the Contractor's project overhead and will not be paid by the Owner.

12.2.2.3 The Contractor shall apply a combined percentage rate to the direct costs to compensate it for additional Overhead and Profit associated with the change. The combined rate to the Owner of any change shall not exceed the rates set forth in the following schedule:

For the Contractor, for Work performed by his own forces, up to fifteen percent (15%) of direct costs;

For each Subcontractor involved, for Work performed by the Subcontractor's forces, up to fifteen percent (15%) of direct costs;

For the Contractor, for Work performed by Subcontractors, up to ten percent (10%) of the Subcontractor's direct costs;

For the Subcontractor, for Work performed by the multiple-tier-contractors up to ten percent (10%) of direct costs;

The total Contractor and all-subcontractors overhead allowance shall not exceed twenty-five percent (25%) of direct costs.

12.2.3 For Work proceeding on a time and material basis in accordance with Subparagraph 12.2.1.3.2, the Contractor shall be compensated for its costs in accordance with the following:

12.2.3.1 Direct Costs: Direct Costs shall be as defined in Subparagraph 12.2.2.1.

12.2.3.2 Overhead: Overhead shall be as defined in Subparagraph 12.2.2.2.

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- 12.2.3.3 Overhead and Profit combined included in the total costs to the Owner of any change shall not exceed the rates set forth in the following schedule:

For the Contractor, for Work performed by his own forces, up to ten percent (10%) of direct costs;

For each Subcontractor involved, for Work performed by the Subcontractor's forces, up to ten percent (10%) of direct costs;

For the Contractor, for Work performed by Subcontractors, up to five percent (5%) of the Subcontractor's direct cost.

For the Subcontractor, for Work performed by multiple-tier-contractors up to five percent (5%) of direct costs;

The total Contractor and multiple-tier-contractor overhead allowances shall not exceed twenty percent (20%) of direct costs.

- 12.2.4 If the net value of a change results in a credit from the Contractor, Subcontractor, or Material Suppliers or Vendors, the credit given shall be the net cost without overhead or profit. The costs as used herein shall include all items of labor, materials, plant and equipment. Credit changes shall include a percentage of the direct costs for overhead and profit at fifty percent (50%) of the rates defined in Subparagraph 12.2.2.3.
- 12.2.5 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in the proposed Change Order that application of the agreed unit prices to the quantities of Work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted.
- 12.2.6 The Contract Sum, the Contract Time, and the date required for performance of any part of the Work may be changed only by a Change Order to the Contract. Each Change Order will be identified at the bottom of each approved RFP, with a heading of "Change Order Authorization." Change Orders executed pursuant to this article constitute full and final settlement of all aspects of cost and time related to and/or occasioned by the Work (or event) described therein. Costs are defined to include all direct labor costs; all direct materials and equipment expenses; any and all overhead, profit, and commission; any and all impact costs related to and/or occasioned by the Work described herein; as well as all taxes and insurance. All Change Orders shall be approved by the Project Manager and signed by the Owner and Contractor.
- 12.2.7 For accounting purposes, the Change Orders identified in Subparagraph 12.2.6 will be accumulated on a monthly basis or more frequently and summarized in a Summary Change Order. The Summary Change Order shall be approved by the Project Manager and signed by the Owner and Contractor. No claim by the Contractor for or on account of any Change Order shall be due nor shall any such claim appear on an Application for Payment or demand for final payment until the Summary Change Order has been fully executed by the Contractor and the Owner.
- 12.2.8 The Superintendent of Schools and/or the Senior Director of Capital Planning and Construction are authorized to make contract modifications or to execute orders up to one hundred thousand dollars (\$100,000) that are within the project's budget. The Superintendent is authorized to make contract modifications in excess of one hundred thousand dollars (\$100,000) but not-to-exceed two hundred fifty thousand dollars (\$250,000) that are within the project's budget. All contract modifications or change orders

above two hundred fifty thousand dollars (\$250,000) shall be recommended by the Superintendent to the School Board for its approval.

12.2.9 No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment or more than six months after the date of substantial completion, whichever is earlier.

12.2.10 Nothing in this Article shall excuse the Contractor from proceeding with the Contract as changed.

12.3 DIFFERING CONDITIONS

12.3.1 The Contractor shall promptly, and before the conditions are disturbed, give written notice to the Owner of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this Contract, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.

12.3.2 The Owner shall investigate the site conditions promptly after receiving notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Owner has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the Work under this Contract, whether or not changed as a result of the conditions, an adjustment shall be made under this Article and the Contract modified in writing accordingly.

12.3.3 No request by the Contractor for an adjustment to the Contract under this Article shall be allowed unless the Contractor has given the written notice required.

12.3.4 No claim by the Contractor for an adjustment hereunder shall be allowed if asserted after final payment or more than six months after the date of substantial completion, whichever is earlier.

12.4 CLAIMS FOR ADDITIONAL COST OR TIME

12.4.1 If the Contractor claims that additional cost is involved because of, but not limited to (1) any written interpretation pursuant to Subparagraph 2.2.8; (2) any order by the Owner to stop the Work pursuant to Paragraph 3.4 where the Contractor was not at fault; or (3) any other impacts related to the Work, the Contractor shall make such claim as provided in Subparagraph 12.4.2.

12.4.2 If the Contractor wishes to make a claim for an increase in the Contract Sum, and such claim is not barred under Paragraph 8.3, he shall deliver to the Project Manager written notice thereof within fourteen (14) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.3. No such claim shall be valid unless so made. The written notice shall state:

12.4.2.1 the date, nature and circumstances of the conduct regarded as a change;

12.4.2.2 the name, function and activity of each Contractor official, agent or employee involved in or knowledgeable about such conduct;

12.4.2.3 the identification of any documents and the substance of any communication

involved in such conduct;

12.4.2.4 in the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;

12.4.2.5 the particular elements of Contract performance for which the Contractor may seek an equitable adjustment under this Paragraph, including:

12.4.2.5.1 what Contract Drawings or Specification have been or may be affected by the alleged change;

12.4.2.5.2 what labor or materials or both have been or may be added, deleted or wasted by the alleged change;

12.4.2.5.3 to the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performances have been or may be caused by the alleged change in accordance with Division1, Section 01311, "Project Schedule;"

12.4.2.5.4 what adjustments to the Contract Sum and other provisions of the Contract affected by the alleged change are estimated; and

12.4.2.6 the Contractor's estimate of the time by which the Project Manager and Architect must respond to the Contractor's notice to minimize cost, delay or disruption of performance in accordance with Division 1, Section 01311, "Project Schedule."

12.4.3. After receipt of a Contractor's claim, the Project Manager may visit the site, schedule an informal review hearing, or request additional information in order to fully evaluate the issues of the claim. The Project Manager has thirty (30) calendar days to review the claim and to send a written decision to the Contractor. If the Project Manager agrees with the Contractor that the issues presented in the Contractor's claim justify a change in the Contract Sum or the Contract Time, the Project Manager and the Contractor shall negotiate the amount of the adjustment in the Contract.

If the Project Manager determines that the claim does not justify a change in the Contract Sum or Contract Time, or if the Project Manager cannot reach agreement with the Contractor on the amount of the adjustment in the Contract Sum or Contract Time, the amount shall be determined in accordance with Paragraph 12.5

12.4.4 In no event shall the Contractor slow or stop the Work while such determination is pending and the Owner shall continue to make payment in accordance with the Contract Documents except as to the amount in dispute. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

12.5 RESOLUTION OF DISPUTED CLAIMS

12.5.1 All disputed claims arising from this contract shall be resolved according to the process identified in this section 12.5. This includes any interpretations of the contract documents, claims for increase in the Contract Sum or Contract Time, or any other issues of equitable adjustment.

12.5.2 Disputes between the Owner and the Contractor will be processed through the appeal process described in 12.5.3 and/or through the use of Alternative Dispute Resolution (ADR) procedures described in 12.5.4.

12.5.3 Appeal Process

- 12.5.3.1 If the Contractor does not agree with the decision of the Project Manager, the Contractor may, within ten (10) calendar days of receipt of the decision, file a notice of appeal with the Chief Operating Officer. The Chief Operating Officer will then have sixty (60) calendar days to review the appeal and send a written decision to the Contractor.
- 12.5.3.2 If the Contractor does not agree with the final decision rendered by the Chief Operating Officer, it may pursue litigation.

12.5.4 ADR Process

- 12.5.4.1 Either the Owner or the Contractor may request, prior to litigation, that a dispute be submitted to mandatory mediation.
 - 12.5.4.2 The parties shall jointly select and compensate a third party mediator.
 - 12.5.4.3 Both parties shall attend joint mediation sessions and make a good faith effort to reach agreement through this process.
 - 12.5.4.4 There is no obligation for either of the parties to accept any agreement during the mediation process.
- 12.5.5 The Contractor shall diligently carry on the Work and maintain the progress schedule during any dispute resolution proceedings, unless otherwise agreed in writing.

END OF ARTICLE 12

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any portion of the Work should be covered contrary to the request of the Owner, Project Manager or the Architect or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Project Manager, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.1.2 If any other portion of the Work has been covered which the Architect or the Project Manager has not specifically requested to observe prior to being covered, either may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor as provided in Article 6, in which event the Owner shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly correct all Work rejected by the Project Manager as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional Owner Administrative and legal expenses, and additional compensation for the Architect's and/or Project Manager's additional services made necessary thereby.

13.2.2 If, within one (1) year after the Date of Substantial Completion of the Work or designated portion thereof or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner through the Project Manager to do so unless the Owner through the Project Manager has previously given the Contractor a written acceptance of such condition. This obligation shall survive the provisions of Subparagraph 9.5.5 and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

13.2.3 The Contractor, unless removal is waived by the Owner, shall remove from the site all portions of the Work which are defective or non-conforming, or if permitted or required, he shall correct such Work in place by and at the expense of the Contractor promptly after receipt of notice, and such rejected Work shall not thereafter be tendered for acceptance unless the former rejection or requirement for correction is disclosed.

13.2.4 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Owner, through the Project Manager, the Owner may either:

13.2.4.1 by separate contract or otherwise replace or correct such Work and charge the Contractor the cost occasioned the Owner thereby and remove and store the materials or equipment at the expense of the Contractor, or

13.2.4.2 terminate this Contract for default as provided in Paragraph 14.1. If the Contractor does not pay the cost of such replacement or correction and the

removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days' written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Owner's administrative and legal expenses, and additional services of the Architect and the Project Manager made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.2.5 The Contractor shall bear the cost of making good all Work of the Owner or separate contractors destroyed or damaged by such correction or removal.

13.2.6 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5. thereof. The establishment of the time period of one (1) year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK

13.3.1 If the Owner prefers to accept defective or nonconforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable, or the Owner may elect to accept payment in materials or services, in lieu of a reduction in the Contract Sum. If the amount of a reduction is determined after final payment, it shall be paid to the Owner directly by the Contractor.

END OF ARTICLE 13

ARTICLE 14

TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE OWNER

14.1.1 If the Contractor:

- 14.1.1.1 is adjudged bankrupt; or
- 14.1.1.2 makes a general assignment for the benefit of his creditors; or
- 14.1.1.3 has a receiver appointed on account of his insolvency; or
- 14.1.1.4 if he refuses or fails to commence the Work within the time required by this Contract; or
- 14.1.1.5 refuses or fails to prosecute the Work or any separable part with the diligence that will ensure its completion within the time specified in this Contract, including any extension; or
- 14.1.1.6 refuses or fails to provide sufficient and properly skilled workmen or proper materials or equipment to complete the Work in an acceptable manner and without delay; or
- 14.1.1.7 refuses or fails to complete the Work in accordance with the Project Schedule Milestone Dates set forth under Section 00200 hereof; or
- 14.1.1.8 fails to make prompt payment to Subcontractors or for materials or labor, or
- 14.1.1.9 persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
- 14.1.1.10 fails or refuses to comply with the requirements of Division 1, Section 01311, "Project Schedule" of the Contract Documents; or
- 14.1.1.11 otherwise is guilty of a substantial violation of a provision of the Contract Documents,

then the Owner, may, without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven (7) days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. Such an event of termination shall at the option of the Owner result in the automatic assignment to the Owner of all of the Contractor's subcontracts, and the Owner may thereafter enforce such subcontracts in the prosecution of the Work in the same manner and to the same extent as the Contractor.

- 14.1.2 If the cost of finishing the Work exceeds the unpaid portion of the Contract Sum, the Contractor or his assigns, heirs or sureties shall pay the difference to the Owner. This obligation shall survive the termination of the Contract.

14.1.3 Nothing contained in this Article 14 shall impair any of the obligations of the surety.

14.2 TERMINATION FOR CONVENIENCE

14.2.1 The performance of the Work under this Contract may be terminated by the Owner in whole, or from time to time in part, whenever the Owner shall determine that such termination is in the best interest of the Owner. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective.

14.2.2 After receipt of a Notice of Termination, and except as otherwise directed by the Owner, the Contractor shall:

14.2.2.1 stop Work under the Contract on the date and to the extent specified in the Notice of Termination;

14.2.2.2 place no further orders or subcontracts for materials, services or equipment, except as may be necessary for completion of such portion of this Work under the Contract as is not terminated;

14.2.2.3 terminate all orders and subcontractors to the extent that they relate to the performance of Work terminated by the Notice of Termination;

14.2.2.4 assign to the Owner, in the manner, at the times, and to the extent directed by the Owner, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

14.2.2.5 settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;

14.2.2.6 transfer title and deliver to the Owner, in the manner, at the times, and to the extent, if any, directed by the Owner, (A) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the Work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and the property which, if the Contract has been completed, would have been required to be furnished to the Owner;

14.2.2.7 use his best efforts to sell, in the manner, at the time, to the extent and at the price or prices directed or authorized by the Owner, any property of the types referred to in Subparagraph 14.2.2.6 above, provided, however, that the Contractor (A) shall not be required to extend credit to any purchase, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner, and provided further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Owner may direct;

14.2.2.8 complete performance of such part of the Work as shall not have been

terminated by the Notice of Termination and may incur obligations as are necessary to do so; and

- 14.2.2.9 take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest.
- 14.2.3 The Contractor may submit to the Owner a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Owner, and may request the Owner to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Owner will accept title to such items and remove them or enter into a storage agreement covering the same; provided that the list submitted shall be subject to verification by the Owner upon removal of all items, or if the items are stored within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.
- 14.2.4 After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination claim, in the form and with certification prescribed by the Owner. Such claim shall be submitted promptly but in no event later than six (6) months from the effective date of termination. Upon failure of the Contractor to submit his termination claim within the time allowed, the Owner may determine on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.
- 14.2.5 Subject to the provisions of Subparagraph 14.2.4 above, the Contractor and the Owner may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of Work pursuant to this paragraph, which amount or amounts may include a reasonable allowance of profit on Work done; provided that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract Sum attributable to that portion of Work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in Subparagraph 14.2.6 below, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor by reason of the termination of Work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this Subparagraph 14.2.5.
- 14.2.6 In the event of the failure of the Contractor and the Owner to agree, as provided in Subparagraph 14.2.5 above, upon the whole amount to be paid to the Contractor by reason of the termination of Work pursuant to this paragraph, the Owner shall pay to the Contractor the amounts determined by the Owner as follows, but without duplication of any amounts agreed upon in accordance with Subparagraph 14.2.5:
 - 14.2.6.1 with respect to all Contract Work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - 14.2.6.1.1 the cost of such Work;
 - 14.2.6.1.2 the cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in Subparagraph 14.2.2.5 above exclusive of the amounts paid or

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payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the Notice of Termination Work under this Contract, which amounts shall be included in the cost on account of which payment is made under Subparagraph 14.2.6.1 above; and

- 14.2.6.1.3 a sum as profit on Subparagraph 14.2.6.1.1 above, determined by the Owner to be fair and reasonable; and
- 14.2.6.2 the reasonable cost incidental to termination of Work including:
 - 14.2.6.2.1 accounting, legal, clerical and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;
 - 14.2.6.2.2 the termination and settlement of subcontracts (excluding the amounts of such settlements); and storage, transportation and other costs incurred (pursuant to Subparagraph 14.2.2.9), reasonably necessary for the preservation, protection or disposition of the termination inventory.
- 14.2.6.3 The total sum to be paid to the Contractor under Subparagraph 14.2.6.1 above shall not exceed the total Contract Sum as reduced by the portion of the Contract Sum attributable to that portion of Work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under Subparagraph 14.2.6.1, the fair value, as determined by the Owner, of property which is destroyed or lost, stolen, or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to Subparagraph 14.2.2.7.
- 14.2.7 In arriving at the amount due the Contractor under this paragraph, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this Contract, (2) any claim which the Owner may have against the Contractor in connection with this Contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies or other things acquired by the Contractor or sold, pursuant to the provisions of this paragraph and not otherwise recovered by or credited to the Owner.
- 14.2.8 If the termination hereunder be partial, the Contractor may file with the Owner a claim for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices. Any claim by the Contractor for an equitable adjustment under this clause must be asserted within ninety (90) days from the effective date of the termination.
- 14.2.9 The Owner may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this Contract whenever in the opinion of the Owner the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this paragraph, such excess shall be payable by the Contractor to the Owner upon demand, together with interest computed at the legal prevailing rate, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Owner, provided, however,

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that no interest shall be charged with respect to any such excess payment, attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten (10) days after the date of such retention or disposition, or such later date as determined by the Owner by reason of the circumstances.

- 14.2.10 Unless otherwise provided for in this Contract, or by applicable statute, the Contractor shall - from the effective date of termination until the expiration of three (3) years after final settlement under this Contract - preserve and make available to the Owner at all reasonable times at the office of the Contractor but without direct charge to the Owner, all his books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or, to the extent approved by the Project Manager, photographs, microphotographs, or other authentic reproductions thereof.

END OF ARTICLE 14

END OF SECTION

SUPPLEMENTARY GENERAL CONDITIONS TO THE CONTRACT FOR CONSTRUCTION

REFERENCE:

1. **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ANCHORAGE SCHOOL DISTRICT, ANCHORAGE, ALASKA**, constitutes the General Conditions of this Contract, and is further revised and supplemented by the provisions of these Supplementary General Conditions. The General Conditions and the Supplementary General Conditions are applicable to all of the work under this Contract and shall apply to the Contractor and all Subcontractors, Sub-subcontractors, and Material Suppliers and Vendors.

SUPPLEMENTS:

1. The following supplements modify, change, delete, or add to the General Conditions. Where any article of the General Conditions is modified or any paragraph deleted, subparagraph or clause thereof is modified, or deleted by these supplements, the unaltered provisions of such article, paragraph, sub-paragraph or clause shall remain in effect.

ARTICLE 1

Add the following new Paragraph 1.2.5.12:

- 1.2.5.12 Student Community Workforce Agreement

ARTICLE 4

Add the following new Paragraphs 4.7.1.2 & 4.7.1.3:

- 4.7.1.2 Unless otherwise authorized by the Project Manager, successfully obtaining the necessary permits shall be the responsibility of the Contractor and shall constitute a requirement for the issuance of the Notice to Proceed by the Owner.
- 4.7.1.3 Contractor shall submit Fire Alarm shop drawings to the Municipality of Anchorage Building Safety Office.
- 4.7.1.3.1 Contractor shall pay for the Municipality of Anchorage Fire Alarm permits.
- 4.7.1.3.2 Contractor shall obtain the permits upon approval.

Add the following new Paragraph 4.21, Construction Management Software:

4.21 CONSTRUCTION MANAGEMENT SOFTWARE

- 4.21.1 The Contractor shall fully utilize the Owner provided construction management software, currently Sage Procore Construction Management for communications, Submittals, Requests for Information, for submission of construction record documents and photographs, and other purposes as directed by the Project Manager.
- 4.21.2 The contractor shall designate a minimum of two (2) people from their internal project staff to access the Construction Management Software. It is incumbent upon the Contractor to ensure these individuals familiarize themselves and become proficient in the use of the Construction Management software utilizing the manuals, help files, training videos, forums and other support services provided by the Construction Management Software.

ARTICLE 7

Add the following new Paragraph 7.12, Fire Alarm System:

7.12 FIRE ALARM SYSTEM

- 7.12.1 Before beginning any work that may result in a fire alarm transmission, the contractor shall call both the Anchorage Fire Department dispatcher at 522-1122 and the local fire station which would respond to an alarm and let them know you will be working on the system and for approximately how long. Second the contractor shall call Guardian Security at 277-1975 and notify the dispatcher that you have called the Fire Department, what type of work you are planning to do, and approximately how long before you expect to be completed. After the contractor is completed with your work, you must reverse the process by notifying the Fire Department dispatcher and the ASD Dispatcher that you are finished.
- 7.12.2 The Contractor shall be held responsible for all charges incurred from false fire alarms. Currently the Anchorage Fire Department charges seven hundred fifty dollars and no cents (\$750.00) per false alarm, or current rate charged.

Add the following new Paragraph 7.13, Apprenticeship Utilization Requirements for Contracts:

7.13 APPRENTICESHIP UTILIZATION REQUIREMENTS FOR CONTRACTS

- 7.13.1 Once awarded a contract by ASD, the prime contractor will be responsible to gather and submit all documentation to ASD to confirm compliance with the Apprenticeship Utilization Policy ("AUP") mandated by Anchorage School Board Policy 3311.1.2. The Prime contractor will provide documentation to ASD to confirm that 15% of the labor hours worked in trades/crafts categories that are included in the Alaskan Federally Registered Apprenticeship Program has been executed by certified apprentices enrolled in those programs, and will provide documentation to confirm that the apprentices listed on the documentation submitted are currently in good standing with their Alaskan Federally Registered Apprenticeship Program. ASD will provide several forms which the prime contractor will be required to fill out in addition to submitting their certified payroll documents. Also, ASD will audit the prime contractor's documentation on the following schedule. Audits for projects will be conducted every 30 days. In addition, ASD will conduct on-site audit at non-scheduled intervals to ensure that the apprentices listed on the written documentation are physically on-site. ASD will give a reasonable notice of 24 hours prior to on-site inspections.
- 7.13.2 The prime contractor will be required to submit the following, at the intervals requested by ASD:
- Certified Payroll for prime and subcontractors.
 - Apprenticeship Utilization Form for prime and subcontractors.
 - Apprenticeship Utilization Calculation form for prime and subcontractors, which demonstrates labor hours worked by apprentices in applicable crafts/trades categories, and reports status as to whether the apprentices listed are in good standing with their Alaskan Federally Registered Apprenticeship Program.

Add the following new Paragraph 7.14, Preference for Alaska Forest Products:**7.14 PREFERENCE FOR ALASKA FOREST PRODUCTS****7.14.1 Preference for Alaska Forest and Agricultural Products**

This project is funded by state money in which the use of timber, lumber, and manufactured lumber products are required, and, therefore, only timber, lumber, and manufactured lumber products originating in this state from local forest products shall be used whenever practical.

Pursuant to AS 36.15.050 and AS 36.30.322, agricultural and timber, lumber and manufactured lumber products harvested in Alaska shall be used in state funded projects whenever they are priced no more than seven percent above agricultural/wood products harvested outside the state and are of a like quality as compared with agricultural/wood products harvested outside the state. The Contractor shall maintain records which establish the type and extent of Alaska agricultural/wood products utilized. When such products are not utilized, the Contractor shall document the efforts the Contractor made towards obtaining agricultural/wood products harvested in Alaska and include in this documentation a written statement that the Contractor contacted the manufacturers and suppliers identified on the Department of Commerce and Economic Development's list of suppliers of Alaska forest products concerning the availability of agricultural/wood products harvested in Alaska and, if available, the product prices. The Contractor shall complete this documentation at a time determined by the district's project manager.

The Department of Commerce and Economic Development's list of suppliers of Alaska forest products is available at:

<http://www.commerce.state.ak.us/ded/dev/prodpref/fppproduct.cfm>

The Contractor's use of agricultural/wood products that fail to meet the requirements of this section shall be removed and replaced in accordance with **Division 0, Section 00700, paragraph 13.3** of the contract. In addition, pursuant to AS 36.15.050(d), the district may withhold payment until the Contractor complies with this section.

To clarify, the actions required by the successful bidder awarded the contract are as follows:

- For all lumber items required under the contract the Contractor will contact all applicable suppliers of Alaska forest products to determine availability and cost.
- Contractor must use lumber from the suppliers of Alaska forest products unless the cost of the Alaska forest products that are of like quality is seven percent higher than non-Alaska produced forest products, or the Alaska forest products are not available.
- Contractor must maintain records showing efforts made in using Alaska forest products or evidence of Alaska forest products not being available or reasonably competitive.
- The records showing compliance with the Alaska forest products preference must be provided to Owner during the submittal process (Division 1, Section 01300).
- Per AS 36.15.010 if the Contractor fails to provide evidence regarding proper sourcing and comparison of Alaska forest products, the District shall withhold payment until the Contractor complies.

Add the following new Paragraph 7.15, Student Community Workforce Agreement:

7.15 STUDENT COMMUNITY WORKFORCE AGREEMENT

- 7.15.1 Bidders are hereby notified that this project is subject to the Student Community Workforce Agreement (SCWA).

A Template of the SCWA has been provided in this solicitation. Bidders may direct questions to purchasing@asdk12.org for consideration or submission to the SCWA Committee.

No portion of the attached Student Community Workforce Agreement may be changed without agreement of the SCWA Committee and the Trades Council.

- 7.15.2 As part of the Award process, the successful low bidder will comply with Board Policy 3311.2 Student Community Workforce Agreement (SCWA). The completed and approved SCWA documents will be incorporated into the District Contract of Award.

ARTICLE 9

Add the following new Paragraph 9.12, Liquidated Damages:

9.12 LIQUIDATED DAMAGES

- 9.12.1 Should the Contractor fail to substantially complete the Work on or before any date stipulated for Substantial Completion (or such later date as may result from extension of time granted by the Owner), he shall pay the Owner, as liquidated damages, the sum of one thousand dollars and no cents (\$1,000.00) for each consecutive calendar day that terms of the contract remain unfulfilled beyond the date allowed by the Contract, which sum is agreed upon as a reasonable and proper measure of damages which the Owner will sustain per day by failure of the Contractor to complete work within time as stipulated; it being recognized by the Owner and to the Contractor that the injury to the Owner which could result from a failure of the Contractor to complete on schedule is uncertain and cannot be computed exactly. In no way shall costs for liquidated damages be construed as a penalty on the Contractor.
- 9.12.2 For each consecutive calendar day that the Work remains incomplete after the date established for Final Completion, the Owner will retain from the compensation otherwise to be paid to the Contractor the sum of one thousand dollars and no cents (\$1,000.00). This amount is the minimum measure of damages the Owner will sustain by failure of the Contractor to complete all remedial work, correct deficient work, clean up the project and miscellaneous tasks as required to complete all work specified.
- 9.12.3 In no instance shall more than one thousand dollars and no cents (\$1,000.00) a day are assessed for liquidated damages for work, which remains incomplete.

ARTICLE 10

Add the following new Paragraph 10.4, Compliance:

10.4 COMPLIANCE

- 10.4.1 When the school is in session the Contractor will be restricted to the areas, which do not interfere with school operations. These areas shall be safety and security fenced

to not impact school operations. Additional areas may be utilized upon concurrence of the Project Manager. The Contractor shall minimize his impact on education while his work is in progress. Workers must stay out of school while school is in session. All renovation work in the existing school, including sprinklers, must be performed while school is not in session. If scheduling pushes this work into the school session, then the work must be performed on nights and weekends.

- 10.4.2 The Contractor must maintain interior building fire exits through the construction areas and maintain these exits during all school operation hours. These exit routes may not be modified without concurrence of the Project Manager and the School Principal.

ARTICLE 11

Remove and replace Section 11.3.3.1 with the following:

- 11.3.3.1 The Contractor shall maintain an umbrella liability policy according to the following:

Projects < \$2 million construction cost - \$1,000,000 per occurrence and annual aggregate.

Projects < \$10 million construction cost – \$5,000,000 per occurrence and annual aggregate.

Projects > \$10 million construction cost – \$10,000,000 per occurrence and annual aggregate.

This requirement does not apply to Subcontractors.

ARTICLE 12

Article 12, 12.5.2: Delete this section in its entirety and replace with the following:

Disputes between the Owner and the Contractor will be processed through the appeal process described in 12.5.3.

Article 12, 12.5.3: Delete this section in its entirety and replace with the following:

12.5.3 Appeal Process

- 12.5.3.1 The contractor will submit in writing the issue(s) being claimed and the Project Manager will review. The Project Manager may visit the site, schedule a review hearing, or request additional information in order to fully evaluate the issues of the claim. The Project Manager will send the written decision to the Contractor within ten (10) days of receipt of claim.

- 12.5.3.2 If the Contractor does not agree with the decision of the Project Manager, within ten (10) days from the receipt of the written decision by the Project Manager, the Contractor may request an appeal of the decision to the Senior Director of Capital Planning & Construction. The Senior Director of Capital Planning & Construction will then have ten (10) days to review the issue(s) and send a written decision to the

Contractor.

- 12.5.3.3 If the Contractor does not agree with the decision of the Senior Director of Capital Planning & Construction, within ten (10) days from the receipt of the written decision by the Senior Director of Capital Planning & Construction, the Contractor may request an appeal of the decision to the Chief Operating Officer. The Chief Operating Officer will then have ten (10) days to review the issue(s) and send a written decision to the Contractor.
- 12.5.3.4 If the Contractor does not agree with the final decision rendered by the Chief Operating Officer, it may pursue litigation.
- 12.5.3.5 The Contractor may bring no action on claims unless the claims have been properly raised in accordance with all notice provisions of the conditions and considered in the above dispute-resolution procedures.
- 12.5.3.6 The Contractor shall diligently carry on the Work and maintain the progress schedule during any dispute-resolution proceedings, unless otherwise agreed in writing.
- 12.5.3.7 Any step in the process identified above can be waived only by explicit written waiver by both parties.

Article 12, 12.5.4: Delete this section in its entirety.

END OF SECTION

WAGE RATES

I. GENERAL

A. STATE OF ALASKA PREVAILING WAGE SCALE AND ALASKA HIRE

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract. Among other things, the requirements of Alaska's Little Davis Bacon Act (AS 36.05.010) are applicable to this project. Each bidder must inform himself/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of the Contract.

State Labor Wage and Hour Administration Pamphlets No. 600 for Laborers' and Mechanics' are updated on April 1, and September 1. It is the responsibility of the bidder to obtain the new labor wage and hour rates when available from the State of Alaska Department of Labor, and to use the Prevailing wage scale and hiring requirements when formulating your bid.

For copies of this pamphlet, contact the nearest office of the Division of Labor Standards and Safety, Wage and Hour office or visit the internet site at:

<http://labor.state.ak.us/lss/pamp600.htm>

END OF SECTION

GENERAL REQUIREMENTS RELOCATION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. GENERAL

1. Relocation of all Anchorage School District personal property in areas of construction shown on the drawings during the time specified herein.
2. Personal property is defined as all items not attached to the building.
3. The Anchorage School District personal property shall be moved within the building prior to the construction phase of the contract and after substantial completion.
4. All personal property shall be identified by an inventory control system. A copy shall be provided to the Project Manager.
5. All work shall be coordinated with the Project Manager and Building Administrator.
6. The Owner will remove earthquake restraints from all personal property. Personal property to be moved after packing is completed.
7. The Owner will move copiers and telephones.
8. Contractor shall provide a spotter person for public safety when operating machinery.
9. Contractor shall be required to furnish all permits related to this contract, including a current Alaska Transportation Commission (A.T.C.), Common Carrier permit which allows the contractor to perform all duties as called for in this specification.
10. Contractor drivers shall be required to have the appropriate Commercial Drivers License (CDL).
11. Contractor shall abide by all laws pertaining to transportation, parking, fire lanes and safety.

B. TEMPORARY STORAGE

1. ASD property shall be placed in temporary storage.
 - a. The Owner will provide temporary storage on site.
 - b. Property placed in temporary storage shall be identified by location of origin.
 - c. Upon substantial completion the contractor will advise the Project Manager that items in storage are ready to be moved to their permanent location. The Contractor will give the Owner 48-hours notice.

C. DELAY IN UNPACKING

1. After the removal and movement of all items to destination locations, there shall be a delay for the unpack until the return of District personnel.

D. IMPLEMENTATION MEETING

1. Prior to commencement of work under this specification section there will be an implementation meeting to discuss contract interfaces and to identify any problem areas apparent to ASD or the contractor.
2. The contractor shall bring to that meeting a list of key personnel who will be responsible for the execution of the packing/move, including a copy of driver's Commercial Drivers Licenses (CDL's) if materials are located off premises.
3. The Project Manager will coordinate the meeting with the building staff and the contractor.

E. SITE CONDITIONS

1. For bidding purposes the following site conditions exist.
 - a. Hours of operation: Unoccupied.
 - b. Loading access: Main doors.
 - c. Fire Lanes: Fire lane is to remain clear around the perimeter of the building.
 - d. Handicaps Access: Keep access available during entire move.

PART 2 PRODUCTS

2.01 PACKING MATERIALS

- A. All packing materials, (boxes, tape, pallets, wrap, dividers, etc.) shall be provided by the contractor.

2.02 SPECIAL MOVING LIBRARY BOOKS

- A. Books shall be transferred to and from original shelves using moving racks/shelves or boxes provided by the contractor.
- B. Boxed books shall be labeled by shelf number and location. Contractor shall provide shop drawings indicating layout of books to coordinate box labels with bookshelf numbers and labels.
- C. Contactor shall move empty shelves to the storage location.
- D. Books shall be stored back on original shelving at the storage location or in boxes.
- E. Books shall be returned to their original shelf location and order. (Dewey Decimal Classification)
- F. Contactor shall coordinate packing and unpacking of books with the school librarian.

PART 3 EXECUTION

3.01 EQUIPMENT AND MANPOWER

- A. All equipment and manpower necessary for the move shall be provided by the contractor, including vehicles, hand trucks, furniture dollies, blankets, and other necessary items required for this contract.

3.02 IDENTIFICATION OF MATERIAL BEING MOVED

- A. All furniture, boxes, and other items packed by the contractor will be labeled with building destination and room number.

3.03 PACKING CONTENTS

- A. The contractor shall be responsible to pack items from bookshelves, storage cabinets, file cabinets, storage rooms, as appropriate.
- B. The Owner may box and labeled some property which contractor will move to destination site.
- C. Computers
 1. The Owner will properly shut down computers and unplug all cords.
 2. The contractor shall provide packing and transporting of the computers.

3.04 PLACEMENT OF FURNITURE

- A. Contractor shall place and position furniture in each office/classroom into its original location.

3.05 UNPACKING

- A. Contractor will be responsible for unpacking of contents packed by the contractor and for placement of contents in original location.
- B. The Owner will set up computers once unpacked by the contractor.

3.06 PACKING, TRANSPORTATION, STORAGE, UNPACKING

- A. The contractor shall provide all necessary supervision, labor, materials, tools, equipment, supplies, transportation, security, protection from inclement weather and all related requirements not mentioned to perform all service contemplated during the term of the contract in an orderly, timely, and efficient manner for the package, removal, limited storage, and reinstall at designated locations.
- B. Contractor shall pack and/or guarantee the safety of all material and equipment against loss or damage during the contract term (except for property in ASD temporary storage).
- C. Contractor shall reassemble all property disassembled during the move.

3.07 PROTECTION OF FINISHES

- A. Contractor shall be responsible for damage to buildings, installed equipment, walls, floors, doors, door jams, and elevators.
- B. Contractor shall provide protective floor coverings for carpeted areas and a minimum of 3/8 OSB in the gym and multipurpose floors.
- C. Contractor shall provide protective moving pads for elevators.

END OF SECTION

SUMMARY OF WORK

PART 1. GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract comprises the general construction of the facility identified in the Solicitation including all noted site improvements.
- B. Definition of Site: Wherein the term Site is used in the contract documents, it shall mean the areas where work is to be performed; located as identified in the Solicitation and on the Contract Drawings.
- C. Acceptance of Site: The Contractor shall fully inform himself of the areas in which work is to be processed, material delivered, and limitation in working conditions, and access to work areas.
- D. Existing Conditions: The drawings may not show all arrangements and condition of the site as they now exist. The Contractor shall be responsible for a complete visual inspection.

1.03 CONTRACT

- A. Construct the work under a single fixed price contract as bound herein.
- B. It is the intent of these documents to require all work for a complete facility and plant with only minor owner-furnished items to be incorporated. See technical sections for specifics.

1.04 WORK FURNISHED AND INSTALLED BY OWNER

- A. Equipment and furniture as noted in documents. Other Contractors or ASD Maintenance personnel may be performing work at this facility concurrent with this project. See Section 1.07 below for requirements concerning coordination with Contractor's work.

1.05 GENERAL PROJECT DESCRIPTION

- A. General Description: At Alpenglow Elementary School, located at 19201 Driftwood Bay Dr., Eagle River, AK 99507, the roof will be replaced on the vast majority of the school. Ladders will be added to improve access between different sections of the roof. Select skylights will be replaced.

- B. Construction:

Provide all materials, labor, equipment, testing, tools, and supervision as required to properly complete the scope of work as described in the bid documents. The scope of work includes but is not limited to the following:

Removal of existing IRMA roofing assembly down to existing metal deck and replace with new EPDM roof assembly. Remove and replace skylights at areas indicated on the

drawings. Replace existing stucco with new metal siding as needed to make weather tight. Demolish smoke hatches over the MPR. Install fall protection posts. Perform mechanical work to support roof replacement which includes roof drains, overflow drains, and VTRs. Perform electrical work to support roof replacement which includes relocating conduit. Perform structural work to support roof replacement and skylight replacement.

- C. Sequence the start, conduct and completion of Work as required in Section 00200, Project Schedule Milestone Dates.

1.06 CONTRACTOR'S USE OF PREMISES

- A. Limit use of premises for work and for storage to allow for:
 - 1. Area of site indicated on Contract Drawings
 - 2. Owner occupancy of existing building
 - 3. Public use
 - 4. Coordinated use of premises under direction of Project Manager.
 - 5. Full responsibility for protection and safekeeping of products under this Contract stored at Site.
 - 6. Moving any stored products, under Contractor's control, which interfere with operations of Owner or separate Contractor.

1.07 OWNER'S USE OF PREMISES

- A. During the regular school year, conduct operations to minimize interference with normal school operations.
- B. Schedule any work which could interfere with school operations during summer vacation or when the school is not in session during the regular year.
- C. Cooperate with Project Manager in conducting operations to minimize conflict with and to facilitate Owner usage as established by the Project Manager.
- D. Schedule work to maintain Owner's continuous operation. Include in contract sum sufficient funds as may be required for any "after-hours" work caused by this requirement. No additional payment to Contractor will be authorized because of Contractor's failure to anticipate required "after-hours" work.
- E. At all times conduct operation as to insure the least inconvenience to students, staff, visitors, and the general public.
- F. The contractor shall provide advance notice at least 72 hours prior to any utility outages or other operations anticipated to inconvenience the school activities. The Project Manager will review and evaluate the request. The contractor may have to reschedule the operations to another time that will not impact school activities.
- G. The Contractor shall be responsible for maintaining power to the Fire Alarm, Security and Network systems to ensure they are in proper working order throughout the project. If the systems must be off-line during the project, the Contractor shall obtain written approval from the Project Manager. During any time in which the fire alarm or security system is not operational, the Contractor shall provide a fire watch and security watch 24 hours a day, 7 days a week, for the entire period of the shutdown at no additional cost to ASD. The Contractor shall notify the ASD Project Manager of the intended method 72 hours prior to the shutdown.
 - 1. An acceptable method of maintaining power to the fire alarm and security panels

includes maintaining power during the entire period of the Electrical Utility Shutdown.

- H. While school is occupied by students and the general public the contractor must keep operational the emergency egress lighting.

1.08 COORDINATION OF NOISE, DUST AND FUMES

- A. Contain noise, dust and fumes within work area. Notify Project Manager at least 24 hours prior to any necessary excessive noise, dust or fumes. Comply with the Project Manager's instructions.

1.09 PRODUCTS FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR

A. Owner's Responsibilities:

1. Arrange for and deliver necessary shop drawings, product data, and samples to Contractor.
2. Arrange and pay for product delivery to Site in accordance with construction schedule.
3. Deliver supplier's bill of materials to Contractor.
4. Inspect deliveries jointly with Contractor
5. Submit claims for Transportation damage.
6. Arrange for replacement of damaged, defective, missing or otherwise unacceptable items.
7. Arrange for manufacturer's warranties, bonds, service, and inspections as required.

B. Contractor's Responsibilities:

1. Designate delivery date for each product in construction schedule.
2. Receive and unload products at Site.
3. Promptly inspect products jointly with Owner, record shortages, damaged or defective items.
4. Handle products at Site, including uncrating and storage.
5. Protect products against damage and discoloration.
6. Assemble, install, connect, adjust, and finish products, as stipulated in respective Specification Sections.
7. Clean, repair, or replace items damaged by Contractor.

1.10 SALVAGE RIGHTS

- A. Except where noted otherwise on contract documents, existing equipment which is removed as a part of the work shall become the property of the Contractor to dispose of as he sees fit.
- B. Remove scheduled materials and equipment without damaging items. Store items in protected environment. Coordinate with Owner for pick up and/or delivery to the owner. If delivered to the owner include project name and school for easy identification.

1.11 USE OF OWNER'S PROPERTY AND EQUIPMENT

- A. Use of Owner's property or equipment such as tools, ladders, furniture, janitorial equipment and supplies, etc., is strictly prohibited.

1.12 PERMITTING

SUMMARY OF WORK

Division 1

Section 01010

- A. Contractor shall obtain all necessary building permits required to complete the scope of work identified in the contract documents. These include any/all subcontractor or specialty permits.
- B. Contractor shall ensure all required Municipal inspections, in accordance with the aforementioned permits, are requested and conducted prior to covering, closing or concealing the work in the field. Understanding and adhering to all MOA inspection requirements is mandatory. The Owner is not liable for re-inspection or rework costs associated with non-conforming or prematurely concealed work.
- C. Contractor shall maintain an inspection log and retain copies of all inspection reports, on site, for review by inspection officials and district project representatives.
- D. The District will be requiring preconstruction meeting with municipality building safety department.

END OF SECTION

PROJECT COORDINATION

PART 1. GENERAL

1.01 GENERAL CONTRACTOR

- A. Coordinate work of his own employees and subcontractors and coordinate his work with that of other contractors and Owner.
- B. Expedite his work to assure compliance with schedules.
- C. Comply with orders and instructions of the Project Manager.
- D. Monitor and control the use of site:
 - 1. Supervise field engineering and site layout.
 - 2. Allocate space for each subcontractor's use for field offices, sheds, work and storage areas.
 - 3. Establish access, traffic, parking allocations, and regulations.

1.02 GENERAL AND SUBCONTRACTORS SHALL DILIGENTLY COMPLY WITH THE FOLLOWING:

- A. Cooperate in planning and layout of the work well in advance of operations. Inform other contractors of requirements at proper time to prevent delay or revisions.
- B. Be informed of the requirements of other contractors and check own work for conflicts with the work of others.
- C. Ensure delivery of materials and performance of work on coordinated schedule with other contractors.
- D. Be responsible for proper layout of the work, and for all lines and measurements for all of the work executed under the contract documents. Verify the figures shown on the drawings before laying out the work and report any inaccuracies in writing to the Project Manager before commencing work. The Owner, Architect or their representative will in no case assume the responsibility for layout of the work.
- E. The mechanical and electrical trades shall be responsible for the layout of the ductwork, piping and conduits based on the reference lines established.

1.03 COORDINATING UTILITIES

- A. Cooperate and coordinate work with all utilities to be installed for service to Project. Utilities may include, but are not limited to water, sewer, natural gas, telephone, electrical, and cable television. Contractor shall maintain communication with utilities in order to coordinate time and requirements of utilities' installation.
- B. Contractor shall provide all work necessary to comply with requirements of Contract Documents for Utility work that does not meet Contract Document requirements, or for work that is disturbed by utility installation.

1.04 OWNER NOTIFICATION/REIMBURSEMENT

- A. Provide the Owner forty-eight (48) hours advance notice of his intention to work overtime,

nights, Sundays or holidays, or anytime outside the usual working hours. In no case will the Contractor do any such work without first notifying the Owner to permit arrangements for proper inspection. Unless of an emergency nature, work performed in violation of this paragraph will not be paid for.

- B. Reimburse the additional cost to the Owner for inspection work on Sundays or recognized holidays. Such reimbursement shall include all additional costs to the Owner.
- C. Reimbursement for inspection or observation required of the Project Manager or the Engineer on Sundays or recognized holidays shall be at the rate of One Hundred Fifty dollars (\$150.00) per man-hour of work.
- D. The contractor shall reimburse the additional cost to the owner, architect and consultants for inspection work beyond a first substantial of first final completion inspections. The contractor is expected to be virtually complete at time of substantial completion inspection with only minor punchlist items remaining. Should punchlist items remain at time of final inspection and should subsequent inspections be required, the contractor shall pay all costs for all.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

CUTTING AND PATCHING

PART 1. PART GENERAL

1.01 DESCRIPTION OF WORK

- A. Cutting and patching is defined to include, but it not necessarily limited to, the cutting and patching of nominally completed work, and is defined to exclude integral cutting and patching during the manufacturing, fabricating, erecting, and installing process for individual units of work.
- B. Contractor shall be responsible for all cutting, fitting, and patching required to complete the work or to:
 - 1. Accommodate the coordination of work.
 - 2. Provide for installation of other work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Uncover other work for access or inspection.
 - 6. Obtain samples for testing or similar purposes.
 - 7. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.02 RELATED REQUIREMENTS

- A. Section 00700 Article 4.14.
- B. Section 01010 - Summary of Work.
- C. Individual Specification Sections:
 - 1. Cutting and patching incidental to work of the Section.
 - 2. Advance notification to other Sections of openings required in work of those Sections.
 - 3. Limitations on cutting structural members.

1.03 SUBMITTALS

- A. Ten (10) days prior to beginning any demolition activities, the Contractor shall provide written notification to EPA, in accordance with NESHAP regulations, with copy to Project Manager. Notice shall indicate asbestos containing materials are or are not anticipated to be encountered. If no asbestos is anticipated, a negative declaration is made addressing 40CFR61.146 (a), (b) and (c,1-5).
- B. Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather-exposed or moisture-resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight-exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Include in Request:
 - 1. Identification of Project.
 - 2. Location and description of affected work.
 - 3. Necessity for cutting and alteration.

4. Description of proposed work. Designate:
 - a. Scope of cutting and patching.
 - b. Contractor and trades to execute work.
 - c. Products proposed to be used.
 - d. Extent of refinishing.
5. Date and time work will be executed.

PART 2. PRODUCTS

2.01 MATERIALS

- A. For replacement of work removed, comply with specifications for type of work to be done, unless otherwise noted.
- B. Provide materials for cutting and patching which will result in equal to or better than the work being cut and patched in terms of performance characteristics and visual effect where applicable.

PART 3. EXECUTION

3.01 GENERAL

- A. Execute cutting, fitting, and patching to complete Work, and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover work to install or correct ill-timed Work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
 6. Repair surfaces damaged by removal or relocation of surface mounted or built-in items.

3.02 INSPECTION

- A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- B. Do not cut and patch work which is exposed to view in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut and patch work. Remove and replace work judged by Project Manager to be visually unsatisfactory.
- C. After uncovering, inspect conditions affecting performance of work.
- D. Beginning of cutting or patching means acceptance of existing conditions.

3.03 PREPARATION

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by cutting and patching operations, as directed. Return adjacent areas to condition existing prior to start of work.
- B. Provide supports to assure structural integrity of surroundings; devices and methods to

protect other portions of Project from damage.

- C. Provide protection from elements for areas which may be exposed by uncovering work; maintain openings free of water.

3.04 PERFORMANCE

- A. Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- B. Restore work with new products in accordance with requirements of Contract Documents.
- C. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Maintain all fire assembly rating wall or area separation construction in accordance with applicable codes.
- D. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

MECHANICAL AND ELECTRICAL COORDINATOR

PART 1. GENERAL

1.01 DESCRIPTION

- A. Mechanical and electrical coordinator.
- B. Submittals.
- C. Coordination required.
- D. Coordination documents.
- E. Coordination of submittals.
- F. Coordination of substitutions and modifications.
- G. Observation of Work.
- H. Documentation.
- I. Inspection and acceptance of equipment.
- J. Equipment start-up.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work.
- B. Section 01300 - Submittals: Shop drawings, product data, and samples.
- C. Section 01650 - Starting of Systems: Starting of systems. Testing, Adjusting, and Balancing of Systems. Systems Demonstration.
- D. Section 01700 - Project Closeout: Project closeout procedures, project record documents, operation and maintenance data, warranties, and spare parts and maintenance materials.

1.03 MECHANICAL AND ELECTRICAL WORK COORDINATOR

- A. The Contractor shall employ a person, technically qualified and administratively experienced in field coordination for the mechanical and electrical work required for this Project, for the duration of the Work.

1.04 SUBMITTALS FOR REVIEW

- A. Submit coordination drawings and schedules prior to submitting shop drawings, product data, and samples.

1.05 COORDINATION REQUIRED

- A. Coordinate work of Divisions 23, and 26 and with work of other divisions.

- B. Coordinate progress schedules, including dates for submittals and for delivery of Products.
- C. Participate in progress meetings. Report on progress of Work to be adjusted under coordination requirements, and any required changes in schedules. Transmit minutes of meetings and Reports to concerned parties.

1.06 COORDINATION DOCUMENTS

- A. Prepare coordination drawings to organize installation of Products for efficient use of available space, for proper sequence of installation, and to identify potential conflicts.
- B. Identify electrical power characteristics and control wiring required for each item of equipment.
- C. Maintain documents for the duration of the Work, recording changes due to site instructions, modifications or adjustments.
- D. After the Anchorage School District's review of original and revised documents, reproduce and distribute copies to concerned parties.

1.07 COORDINATION OF SUBMITTALS

- A. Review Shop Drawings, Product Data, and Samples for compliance with Contract Documents and for coordination with work of the Project Manual. Transmit for review, copy reviewed documents to the Anchorage School District.
- B. Check field dimensions and clearances and relationship to available space and anchors.
- C. Check compatibility with equipment and Work of other sections, electrical characteristics, and operational control requirements.
- D. Check motor voltages and control characteristics.
- E. Coordinate controls, interlocks, wiring of pneumatic switches, and relays.
- F. Coordinate wiring and control diagrams.
- G. Review the effect of any changes on work of other sections.
- H. Verify information and coordinate maintenance of record documents.

1.08 COORDINATION OF SUBSTITUTIONS AND MODIFICATIONS

- A. Review proposals and requests from Subcontractors.
- B. Verify compliance with Contract Documents and for compatibility with Work and Products of other sections. Submit with recommendation for action.

1.09 OBSERVATIONS OF WORK

- A. Observe Work for compliance with Contract Documents.
- B. Maintain a list of observed deficiencies and defects; promptly submit a written report bi-weekly.

1.10 DOCUMENTATION

- A. Observe and maintain a record of tests. Record:
 - 1. Specification section number.
 - 2. Product and name of Subcontractor.
 - 3. Name of testing agency and name of inspector.
 - 4. Name of manufacturer's representative present.
 - 5. Date, time, and duration of tests.
 - 6. Type of test, and results. Retesting required.
 - 7. Submit copies of documentation to the Anchorage School District.

1.11 EQUIPMENT START-UP

- A. Verify utilities, connections, and controls are complete and equipment is in operable condition as required by Section 01650.
- B. Observe start-up and adjustments; record time and date of start-up, and results.
- C. Observe equipment demonstrations to Owner; record times and additional information required for operation and maintenance manuals.

1.12 INSPECTION AND ACCEPTANCE OF EQUIPMENT

- A. Prior to inspection, verify that equipment is tested, operational, clean, and ready for operation.
- B. Assist the Anchorage School District with review. Prepare list of items to be completed and corrected.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

FIELD ENGINEERING

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide and pay for field engineering services required for project, i.e., civil, structural, or other professional engineering services required to execute Contractor's construction methods.

1.02 RELATED REQUIREMENTS

- A. Conditions of the contract.
- B. Section 01010: Summary of Work.
- C. Section 01700: Project Close Out.

1.03 QUALIFICATIONS OF SURVEYOR AND ENGINEER

- A. Provide Qualified Professional Engineer and Registered Land Surveyor with current Alaska license and acceptable to Contractor and Owner.

1.04 SURVEY REFERENCE POINTS

- A. Locate and protect bench marks, monuments, and other control points prior to starting site work, preserve all permanent points during construction.
 - 1. Make no changes or relocations without prior written notice to Project Manager.
 - 2. Report to Project Manager when any reference point is lost, destroyed or required relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace project control points which may be lost or destroyed and establish replacements based on original survey control.

1.05 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of two permanent bench marks on site, referenced to data established by survey control points.
- B. Record locations, with horizontal and vertical data, on Project Record Documents.
- C. Establish and identify lines, levels, contours, and datum by instrumentation or similar appropriate means for:
 - 1. Stakes for grading, fill, and topsoil placement.
 - 2. Utility slopes and invert elevations.
 - 3. Batter boards for structures.
 - 4. Building foundation, column locations, and floor levels.
 - 5. Controlling lines and levels required for mechanical and electrical trades.
- D. From time to time, verify layouts by same methods.

1.06 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.

1.07 SUBMITTALS

- A. Submit name and address of Surveyor and Professional Engineer to Project Manager.
- B. On request of Project Manager, submit documentations to verify accuracy of field engineering work.
- C. Submit certificate signed by Registered Engineer and Surveyor certifying that elevations and locations of improvements are in conformance with Contract Documents in the form of an "As-Built" survey.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

REGULATORY REQUIREMENTS

PART 1. GENERAL

1.01 BUILDING CODES

- A. Construction which is not governed by a local building code or the Contract Specifications will be governed by the more stringent provisions of the latest published edition of Statute adopted edition with MOA local amendments, of the following applicable codes and regulations:

1. International Building Code (IBC)
2. International Existing Building Code (IEBC)
3. International Energy Conservation Code (IECC)
4. International Fuel Gas Code (IFGC)
5. International Mechanical Code (IMC)
6. International Fire Code (IFC)
7. National Electrical Code (NEC)
8. Uniform Plumbing Code (UPC)
9. ASHRAE 90-75 as applicable to Alaska
10. National Fire Code, Volumes 1-10
11. National Electrical Safety Code
12. NFPA Life Safety Code
13. NFPA National Fire Code
14. ADA Guidelines
15. Accessible and Useable Buildings and Facilities (ICC/ANSI A117.1)

1.02 APPLICABLE STANDARDS

- A. Where indicated, comply with the requirements and recommendations of the standards and other publications, except to the extent more detailed or more stringent requirements are indicated, including those of applicable codes and governing regulations.
- B. Where two or more standards or recommendations of trade associations apply to the same quality control requirement for the work, comply with the most stringent. Refer uncertain instances to the Project Manager for a decision.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

ABBREVIATIONS AND DEFINITIONS

PART 1. GENERAL

1.01 ABBREVIATIONS

- A. References in the contract documents to publications and recommendations by either name or abbreviation thereof include but are not necessarily limited to the following trade associations, technical societies, government agencies, recognized authorities and standards.

AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGC	The Associated General Contractors of America
AI	The Asphalt Institute
AIA	The American Institute of Architects
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
APA	American Plywood Association
ASAH	American Society of Architectural Hardware Consultants
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for testing and Materials
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWPB	American Wood-Preservers' Bureau
AWS	American Welding Society, Inc.
CPSC	Consumer Product Safety Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of NBS (U.S. Department of Commerce)
CSI	The Construction Specifications Institute, Inc.
EPA	Environmental Protection Agency
FM	Factory Mutual Engineering Corp.
FGMA	Flat Glass Marketing Association
FS	Federal Specification (General Services Administration)
GA	Gypsum Association
HPMA	Hardwood Plywood Manufacturers Association
IBC	International Building Code
MFMA	Maple Flooring Manufacturers Association
MLMA	Metal Lath/Manufacturers Association
NAAMM	The National Association of Architectural Metal Manufacturers
NBFU	National Board of Fire Underwriters
NBHA	National Builders Hardware Association
NBS	National Bureau of Standards (U.S. Department of Commerce)
NEC	National Electrical Code by NFPA
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
N.F.P.A.	National Forest Products Association
NRCA	National Roofing Contractors Association

NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association, Inc.
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
RIS	Redwood Inspection Service (Grading Rules)
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association, Inc.
SPR	Simplified Practice Recommendation of NBS
SSPC	Steel Structures Painting Council
TCA	Tile Council of America, Inc.
UL	Underwriters' Laboratories, Inc.
WCLA	West Coast Lumbermen's Association
WCLB	West Coast Lumber Inspection Bureau (Grading Rules)
WRI	Wire Reinforcing Institute
WWPA	Western Wood Products Association (Grading Rules)
W.W. P.A.	Woven Wire Products Association

- B. Refer to individual sections for other names and abbreviations of trade associations and standards applicable to specific portions of the work. In particular, refer to Divisions 23 and 26 for names and abbreviations applicable to mechanical and electrical work.

1.02 SPECIFICATION EXPLANATION

- A. The specifications are divided into divisions and sections for the convenience of writing and using. The titles of these are not intended to imply a particular meaning nor to fully describe the work of each division or section, nor to define the limits of any subcontract.
- B. These specifications are of the abbreviated, or "streamlined" type, and may include incomplete sentences.
- C. Omissions of words or phrases such as "the Contractor shall", "in conformity therewith", "shall be", "as noted on the drawings", "according to the plans", "a", "an", "the", and "all" are intentional.
- D. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the drawings.

1.03 DEFINITIONS

- A. Certain terms used generally throughout the specifications (and drawings) are hereby defined as follows:
1. Indicated: A cross reference to details, notes or schedules on the drawings, other paragraphs or schedules in the specifications, and similar means of recording requirements in the contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.
 2. Installer: The person or entity engaged by the Contractor or his Subcontractor or Sub-subcontractor for the performance of a particular unit or work at the project site, including installation, erection, application, and similar required operations. It

is a general requirement that installers be recognized experts in the work they are engaged to perform.

3. Furnish: Except as otherwise defined in greater detail, the term “furnish” is used to mean “...supply and delivery to the project site, ready for unpacking, assembly and installation...”.
4. Provide: Except to the extent further defined, the term “provide” means to furnish and install, complete and ready for the intended use.

1.04 DRAWINGS, DIMENSIONS AND MEASUREMENTS

- A. Where on any of the drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other portions of the work.
- B. Wherever a detail is referenced and developed for a specific condition, same or similar detail shall apply to identical or similar conditions elsewhere on project even though not specifically referenced.
- C. Where the word “similar” occurs on the drawings, it shall be interpreted in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the work.
- D. The figured dimensions on the drawings or notes indicating dimensions shall be used instead of measurements of the drawings by scale, and shall be strictly complied with.
- E. No scale measurements shall be used as a dimension to work with except on “full size” drawings not dimensioned.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

REFERENCED SPECIFICATIONS AND STANDARDS

PART 1. GENERAL

1.01 QUALITY ASSURANCE

- A. For products or workmanship specified by Referenced Specification or Standard, comply with requirements of the specification or standard, except when more rigid requirements are specified or are required by governing codes.
- B. Except where a specific date is specified, the date of the referenced specification standard is that in effect as of the bid date.
- C. Obtain a copy of all Referenced Specifications and Standards, and maintain at Jobsite during the specific work until Substantial Completion of the Project.

1.02 SCHEDULE OF REGULATORY AGENCY REFERENCES

- A. AASHTO American Association of State Highway and Trans. Officials
444 North Capitol Street, N.W.
Washington, DC 20001
- B. AAC Anchorage Administrative Code (and Local Amendments)
Municipality of Anchorage
4700 Elmore Rd
Anchorage, AK 99507
- C. ADA Americans with Disabilities Act
The Disabilities Rights Section
Civil Rights Division
P.O. Box 66738
Washington, DC 20035-6738
- D. ANSI American National Standards Institute
1430 Broadway
New York, NY 1018
- E. ASA American Standards Association
Now known as ANSI (See above)
- F. ASTM American Society for Testing Materials
1916 Race Street
Philadelphia, PA 19103
- G. ATBCB The U.S. Architectural and Transportation Barrier Compliance Board
Suite 1000, 131 F St. NW
Washington, DC 20004-1111
- H. CS Commercial Standards of the Commodities
Division of the Department of Commerce
Washington, DC 20006
- I. FM Factory Mutual Engineering and Research Corporation
P. O. Box 688
Norwood, MA 02062
- J. F.S. Federal Specifications of the United States General Services
Administration
Specifications and Consumer Information Distribution Section (WFSIS)

REFERENCED SPECIFICATIONS AND STANDARDS

Division 1
Section 01090

		Washington, DC 20407
K.	IBC	International Building Code published by the International Code Council (ICC) 4051 West Flossmoor Road Country Club Hills, IL 60478-5795
L.	IEBC	International Existing Building Code Published by ICC (See IBC above)
M.	ICC/ANSI A117.1-2003	Accessible and Usable Buildings and Facilities Published by ICC (See IBC above)
N.	IECC	International Energy Conservation Code Published by ICC (See IBC above)
O.	IFC	International Fire Code Published by ICC (See IBC above)
P.	IFGC	International Fuel Gas Code Published by ICC (See IBC above)
Q.	IMC	International Mechanical Code Published by ICC (See IBC above)
R.	MOA	Municipality of Anchorage MASS Specifications Public Works Dept. 4700 Elmore Rd Anchorage, AK 99507
S.	NBFU	National Bureau of Fire Underwriters 85 John Street New York, NY 10017
T.	NEC	National Electric Code published by the National Fire Protection Association (See NFPA below)
U.	NFPA	National Fire Protection Association Battery March Park Quincy, MA 02269
V.	PS	Product Standards of the Commodities Division of the Department of Commerce Washington, DC 20203
W.	UPC	Uniform Plumbing Code Published by IAPMO 5001 East Philadelphia Street Ontario, CA 91761-2816
X.	UL	Underwriter's Laboratories 333 Kingston Road Northbrook, IL 60062
Y.	State of AK	State of Alaska Amendments Fire and Life Safety Regulations Juneau, AK

1.03 TRADE ASSOCIATION REFERENCES

REFERENCED SPECIFICATIONS AND STANDARDS

Division 1
Section 01090

A. See specific specification sections.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

ALTERATION PROCEDURES

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. Part of alteration work may expose portions of the building to the elements. During such periods Contractor shall take all necessary precautions to protect building elements to remain. Any damage due to negligence shall be repaired at no cost to the Owner.
- B. In addition to Cutting and Patching (Section 01045) and cut, move, or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
 - 1. Repair or removal of hazardous or unsanitary conditions.
 - 2. Removal of abandoned items and items serving no useful purpose such as abandoned piping, conduit, and wiring.
 - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals, and deteriorated concrete.
 - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.

1.02 RELATED REQUIREMENTS

- A. Section 00700 and 00800 - General and Supplementary General Conditions.
- B. Section 01045 - Cutting and Patching.
- C. Section 01300 - Submittals.
- D. Section 01500 - Temporary Facilities and Controls.

1.03 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective

Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2. PRODUCTS

2.01 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in Product Sections; match existing Products and work for patching and extending work.
- B. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to specified condition.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- E. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patched Work to match existing adjacent Work in texture and appearance.
- F. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation for Project Manager review and approval.
- G. Where a change of plane of 1/8 inch or more occurs, submit recommendation for acceptable transition for Project Manager review and approval.
- H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- I. Finish surfaces as specified in individual Product Sections.

PART 3. EXECUTION (NOT USED)

END OF SECTION

PROJECT MEETINGS

PART 1. GENERAL

1.01 DESCRIPTION

A. Work Included:

1. In general, project meetings will be held weekly at the job site in accordance with a mutually acceptable schedule. The Project Manager will conduct project meetings throughout the construction period.
2. The purpose of the project meetings is to enable orderly review of progress during construction and to provide for systematic discussion and analysis of problems that might arise between the Owner, Project Architect, Project Manager and/or Contractor relative to execution of the work.

B. Related Work described elsewhere:

1. The Contractor's relations with his subcontractors and material suppliers, and discussions relative thereto, are the Contractor's responsibility as described in the General Conditions and are not part of project meetings content.
2. Section 01400 describes the requirements for quality control meetings that will be held in addition to the requirements of this section.

1.02 AUTHORITY DESIGNATION

- A. Persons designated by the Contractor to attend and participate in project meetings shall have all required authority to commit the Contractor to solutions as agreed upon in the project meetings.

1.03 SUBMITTALS

A. Agenda Items:

To the maximum extent possible, advise the Project Manager forty-eight (48) hours in advance of the project meeting regarding all agenda items to be discussed, including tours in advance of the meeting.

1.04 AGENDA

A. Preconstruction Meeting

1. The Project Manager will conduct this meeting within fifteen (15) days after date of Notice to Proceed.
2. Location:

Anchorage School District
Capital Planning & Construction
1301 Labar Street
Anchorage, Alaska 99515
(907) 348-5190
3. Attendance:
 - a. ASD Construction Supervisor
 - b. ASD Project Manager

- c. Architect and his Professional Consultants
 - d. Contractor's Project Manager and Superintendent
 - e. Major Subcontractors, as appropriate
 - f. Major Suppliers, as appropriate
 - g. Others as appropriate
4. Agenda items will include, but not be limited to:
- a. Designation of responsible personnel
 - b. Distribution (by Contractor) and discussion of list of major Subcontractors and Suppliers with addresses and telephone numbers
 - c. Project coordination
 - d. Procedures and processing of:
 - (1) Field decisions
 - (2) Submittals
 - (3) Proposal requests
 - (4) RFI's Change Orders
 - (5) Applications for Payment
 - (6) Schedules and Reports
 - e. Discussion of initial Project Schedule
 - f. Critical work sequencing
 - g. Major equipment deliveries and priorities
 - h. Adequacy of Contract Documents distribution
 - i. Procedures for maintaining Record Documents
 - j. Use of premises:
 - (1) Office, work, and storage area
 - (2) Owner's requirements
 - k. Construction facilities, controls, and construction aids
 - l. Temporary utilities
 - m. Safety and first-aid procedures
 - n. Security procedures
 - o. Housekeeping procedures

B. Progress Meetings:

- 1. The Project Manager will conduct weekly meetings as required, at the Project Site to coordinate the work, answer questions, and resolve problems.
- 2. Meeting Agenda will include but not be limited to:
 - a. Attendees:
List of attendees and company they represent
 - b. Minutes Review:
Corrections, additions, and/or deletions to previous minutes
 - c. Outstanding Action Items:
Review of items not resolved from previous meeting
 - d. Submittal status
 - e. Request for Information status
 - f. Request for Proposal Status
 - g. Schedule Review:
 - h. Project job concerns
 - i. Next meeting
 - j. Summarize and Review of all Action Items:
- 3. All items to be discussed shall be addressed at the time scheduled on the agenda. All attendees shall familiarize themselves with the agenda and be prepared in

advance with their items for discussion.

C. Special Meetings:

The Project Manager may call special meetings at the project site or the office of the Project Manager to coordinate the work, answer questions, and resolve problems.

1.05 MINUTES

- A. The Project Manager will compile minutes of each project meeting and will distribute copies to all interested parties within seven (7) calendar days after the meeting. Items in the minutes shall be numbered consecutively and grouped under divisions and sections. Each item shall be carried forward until resolved.
- B. The minutes compiled by the Project Manager will be the official record minutes and all clarifications and/or corrections shall be transmitted in writing to the Project Manager within fourteen (14) days of date of receipt of the minutes or unless noted during the next scheduled meeting under the appropriate agenda item. Transmitted corrections shall be legibly submitted on company letterhead.
- C. At least one (1) bound volume of all minutes shall be maintained by the Contractor in the job office until project completion.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

SUBMITTALS

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Procedures
- B. Construction Progress Schedules
- C. Schedule of Values
- D. Shop Drawings
- E. Product Data
- F. Samples
- G. Manufacturer's Instructions
- H. Manufacturer's Certificates

1.02 RELATED REQUIREMENTS

- A. Section 01010 - Summary of Work
- B. Section 01311 - Project Schedule
- C. Section 01340 - Shop Drawings, Product Data and Samples
- D. Section 01370 - Schedule of Values
- E. Section 01400 - Quality Control
- F. Section 01630 - Substitution and Product Options
- G. Section 01700 - Project Close Out
- H. Section 01710 - Cleaning
- I. Section 01720 - Project Record Documents
- J. Section 01730 - Operating and Maintenance Data
- K. Section 01750 - Closeout Forms

1.03 PROCEDURES

- A. Deliver submittal documents to the Project Manager using the ASD Procore Construction Management Program. Number each submittal with the section number, dash, numerical order of the submittal, example 03300-1. Add an alpha to each resubmittal, example, 03300-1A. Deliver samples to the Project Manager or Architect as directed to the address listed on the cover of the project manual.

- B. Transmit each item with company submittal. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number and specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Architect/Engineer review stamps.
- C. Submit initial progress schedules and schedule of values in duplicate prior to issuance of Notice to Proceed. After review by the Architect/Engineer, revise and resubmit as required. Submit revised schedules with each application for payment, reflecting changes since previous submittal.
- D. Comply with progress schedule for submittals related to work progress. Coordinate submittal of related items.
- E. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions. Review with subconsultants/suppliers any inability to meet requirements of project. Find solutions with subconsultants/suppliers making conformance with documents possible. Review solutions with owner and architect for acceptance prior to proceeding with work.

1.04 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit Project Schedule as called for in Section 01311, Project Schedule.

1.05 SCHEDULE OF VALUES

- A. Submit Schedule of Values as called for in Section 01370, Schedule of Values.

1.06 SHOP DRAWINGS, PRODUCT DATA & SAMPLES

- A. Submit in the form as called for in Section 01340.

1.07 MANUFACTURERS' INSTRUCTIONS

- A. When required in individual specification section, submit manufacturers printed instructions for delivery, storage, assembly, installation adjusting and finishing, in quantities specified for product data.

1.08 FIELD SAMPLES

- A. Provide field samples of finishes at project site as required by individual specification sections. Install sample complete and finishes. Acceptable samples in place may be retained in completed work.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

PROJECT SCHEDULE

PART 1. GENERAL

1.01 GENERAL REQUIREMENTS

- A. The work under this Section consists of Project Schedule ("Schedule") requirements including the preparation of a Schedule and Schedule Revisions. The Schedule shall be developed by the Contractor and shall be in accordance with the requirements of this Section 01311. No direct payment will be made to the Contractor for performing and complying with the requirements of this Section 01311.
- B. The Schedule will be prepared by the Contractor for this Project and made available to the Owner. It is intended that the Schedule will reflect the Contractor's actual construction plan. The existence of schedules, networks, vector charts or any other charts or services, shall in no way relieve the Contractor of the responsibility of the Contract Document including, but not limited to the responsibility of completing the Work within the contract time and the responsibility of planning, scheduling and coordinating the Work.
- C. The Schedule shall be in the form of a bar chart or other format approved by the project manager.

1.02 REFERENCES

- A. Associated General Contractors of America, "Construction Planning & Scheduling," Copyright January 1994 (AGC's Manual), also referred to as AGC Publication No. 1107.1. The general principles stated in the AGC's Manual shall be used in preparing and updating the Project Schedule, except that the requirements of this Section shall govern.
- B. Related Requirements:
 - 1. Section 00700 and 00800 - General Conditions and Supplementary General Conditions
 - 2. Section 00200 - Project Schedule Milestones Dates
 - 3. Section 01370 - Schedule of Values

PART 2. PRODUCTS

2.01 PROJECT SCHEDULE

- A. Within fourteen (14) calendar days following the Notice to Proceed, the Contractor shall submit for the Project Manager's review, comment and acceptance, a Project Schedule ("Schedule"). The Schedule shall show the activities of work in sufficient detail to demonstrate that the Contractor has a reasonable and workable plan to complete the Project in accordance with the Project Schedule Milestone Dates set forth under Section 00200 of the Contract Documents. The Contractor shall submit two (2) prints of the Schedule, which shall be neatly organized and time scaled from left to right on 11 in. x 17 in. sheets, or 24 in. x 36 in. sheets, at the Contractor's discretion.
- B. Within five (5) calendar days of receipt of the Schedule, the Project Manager shall meet face to face with the Contractor to review the plan and to determine if there are any concerns regarding the Contractor's plan to execute the work. If a resubmittal of the Schedule is required by the Project Manager, the Contractor shall revise and resubmit the Schedule incorporating the Project Manager's comments within seven (7) calendar days after this review meeting. Progress payments will be withheld until the Contractor submits an approvable Schedule.

C. Revisions to the Schedule shall be done in accordance with paragraph 2.02.

2.02 PROJECT SCHEDULE REVISIONS

A. Should the Contractor, after acceptance of the Schedule, desire to change his plan of construction, he shall submit his proposed revisions to the Project Manager, along with a written rationale for the revisions. Only the requested changes accepted by the Project Manager will be incorporated into the Schedule in the next reporting period.

2.03 TIME IMPACT ANALYSIS FOR CONTRACT MODIFICATIONS, CHANGES OR DELAYS

A. If the Contractor believes that a change under Article 12 Paragraph 12.1 causes an increase or decrease in the Contractor's time for completing the Work, he shall complete a Time Impact Analysis that demonstrates how the Contractor proposes to incorporate or has incorporated the Change into the Schedule and the time impact, if any, on the Schedule Milestone Dates set forth under Section 00200 of the Contract Documents.

1. The Time Impact Analysis shall demonstrate the time impact based upon the date the Change in Work is directed by the Project Manager; the status of construction at that point in time; and the event time computations of all affected activities. The event times used in the Time Impact Analysis shall be those set forth in the update of the Schedule in effect at the time the Change in Work is directed by the Project Manager.
2. The Time Impact Analysis is based on an "as-planned" to "as-built" comparison of the event times. In developing an as-built schedule of performance, the Contractor shall utilize actual daily performance data from Schedule Updates and the Contractor's daily construction reports to graphically depict the sequence and manner in which the Contractor actually performed the Work under the Contract.

B. Activity delays shall not automatically mean that an extension of the Contract Time is warranted or due the Contractor. It is possible that a modification, change or delay will not affect projected or as-built critical activities or cause non-critical activities to become critical. A modification, change or delay may result in only absorbing a portion of the available total float that may exist within an activity chain of the Schedule, thereby not causing any effect on the Contract Time.

C. Each Time Impact Analysis shall be submitted as follows:

1. Within fourteen (14) calendar days after receipt of a written order designated or indicated to be a change in accordance with Article 12, Changes in the Work;
2. Within fourteen (14) calendar days after the furnishing of written notice by the Contractor;
3. Within fourteen (14) calendar days from the commencement of a delay related to unforeseeable conditions; provided the Contractor complies with the requirements of the Contract Documents regarding said condition.

D. In cases where the Contractor does not submit a written request for extension of time and Time Impact Analysis within the time stated above in Paragraph 2.03, it is mutually agreed that the Change in the Work does not require an extension of the Contract Time.

E. Acceptance or rejection of each Time Impact Analysis which requests an extension of the Contract Time shall be made by the Project Manager within fourteen (14) calendar days after receipt of each Time Impact Analysis, unless subsequent meetings and negotiations are necessary. Upon acceptance, the Time Impact Analysis shall be incorporated into the Schedule.

F. Time Impact Analysis related to requests for an extension of the Contract Time and/or Change Order work shall be incorporated into and attached to the applicable Change Order(s).

- G. No revision to any Schedule Milestone Date or contractually mandated schedule provisions will be permitted without authorization from the Project Manager.

2.04 COMPLIANCE WITH THE SCHEDULE

- A. The Contractor shall furnish sufficient labor and equipment resources, offices, and facilities, and shall work such hours, including night shift and overtime operations as necessary, to ensure the prosecution of the Work in accordance with the Schedule. If the Contractor falls behind in meeting the Schedule, the Contractor shall take such steps as may be necessary to improve its progress. If the Contractor fails to take such steps, the Project Manager may require the Contractor to increase the hours of work, the number of shifts, overtime operations, the number of workers and/or the amount of construction plant and equipment without additional cost to the Owner. The provisions of this subsection shall not be construed as prohibiting work on Saturdays, Sundays, and holidays, if the Contractor so elects and gives 24 hours' notice to the Project Manager.
- B. Failure of the Contractor to comply with the requirements of this Subsection 2.04 shall be a basis for determination by the Project Manager that the Contractor is not prosecuting the Work with such diligence as will ensure completion of the Work in accordance with the requirements of the Contract Documents. Upon such determination, the Project Manager may terminate the Contractor's right to proceed with the Work or any separable part thereof, in accordance with the clause entitled "Termination of Contract" of the Contract Documents, or may take such other actions as he may deem appropriate.

PART 3. EXECUTION (NOT USED)

END OF SECTION

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1. GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION

- A. Prepare and submit to the Project Manager with the Construction Schedule, a separate schedule listing dates for submission and of review for shop drawings, product data, and samples, refer to General Conditions 4.12.13.1. Include installing Subcontractors name responsible for that portion of the Work
- B. Submit Shop Drawings, Product Data, and Samples as may be required, whether mentioned specifically in Contract Documents or not.
- C. Individual submittals shall not include material covering more than one section of the specifications.
- D. Products fabricated and/or installed prior to approval of submittals are subject to demand for removal and replacement with approved products by the Contractor at no additional cost to the Owner.
- E. Shop drawing submittal cannot be used for product substitution submittal. See Section 01630 for required procedure.

1.3 RELATED REQUIREMENTS

- A. Section 01311: Project Schedule
- B. Section 01630: Substitution and Product Options
- C. Section 01720: Project Record Documents

1.4 SHOP DRAWINGS

- A. Prepare original drawings (by Contractor, subcontractor, manufacturer, supplier, or distributor), which illustrate some portion of the work; showing fabrication, layout, setting or erection details.
- B. Prepare shop drawings for this particular project. Drawings prepared for other projects and revised for this project will be rejected.
- C. When necessary, base shop and setting drawings upon actual measurements taken at site and other job conditions. Show any variations and revisions to Contract Documents that are necessary for proper installation of work. Fabrication or installation of work shall not be started until shop or setting drawings have been reviewed and returned by Architect, with his stamp and comments.
- D. Identify details by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.

- E. Minimum sheet size: 8 ½" x 11". Note: Submit full-size sheet submittals. Use of 8 ½" x 11" format subject to readability and approval of architect.

1.5 PRODUCT DATA

- A. Manufacturer's standard schematic drawings:
 - 1. Modify drawings to delete information which is not applicable to project.
 - 2. Supplement standard information to provide additional information applicable to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data.
 - 1. Clearly mark each copy and identify pertinent materials, products or models.
 - 2. Show dimensions and clearances required.
 - 3. Show performance characteristics and capacities.
 - 4. Show wiring diagrams and controls.
 - 5. Catalog cuts and descriptive data sheets shall include a complete listing of repair and replacement parts for all equipment and the name and address of a source of supply for parts and service.

1.6 SAMPLES

- A. Physical examples to illustrate materials, equipment or workmanship and to establish standards by which completed work is judged.
- B. Office Samples: Of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of product or material, with integrally related parts and attachment devices.
 - 2. Full range of color, texture and pattern.
- C. Field Samples and Mock-Ups:
 - 1. Erect at project site at location acceptable to Project Manager.
 - 2. Construct each sample or mock-up complete, including work of all trades required in finished work.
 - 3. After review, samples may be used in construction of Project.

1.7 SUBMITTAL REQUIREMENTS

- A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for review, for securing necessary approvals, for possible revision and resubmittals and for placing orders and securing delivery. Submission of all shop drawings shall be through the General Contractor.
- B. The contractor shall allow at least 14 days for review of original submittals or resubmittals except as follows:
 - 1. Structural steel shop drawings shall be broken down into separate submittal packages for most efficient review and delivered at least two weeks apart.
 - 2. Division 23
 - a. Plumbing shop drawings - 21 days
 - b. Heating shop drawings - 21 days
 - c. Ventilation shop drawings - 28 days
 - d. Coordination shop drawings - 21 days

3. Division 26
 - a. Special Systems shop drawings - 21 days
- C. Submit one (1) reproducible unfolded transparency print of shop drawing. Upon Architects approval, Contractor shall provide five (5) opaque prints for owners use. Transparency will be returned to Contractor for printing and distribution as needed. Additional copies will be returned without review or mark-ups.
- D. Submit four (4) each of samples.
- E. Unless otherwise specifically permitted by the Project Manager, make all submittals in groups containing all associated items. Partial submittals may be rejected.
- F. Accompany submittals with transmittal letter, in duplicate, containing:
 1. Date
 2. Project Title and number
 3. Contractor's name and address
 4. The number of each shop drawing, product data and sample submitted
- G. Submittals shall include:
 1. Date and revision dates
 2. Project title and number
 3. The name of:
 - a. Architect
 - b. Contractor
 - c. Subcontractor
 - d. Supplier
 - e. Manufacturer
 - f. Separate detailer when pertinent
 4. Identification of product or material
 5. Relation to adjacent structure or materials
 6. Field dimensions, clearly identified as such
 7. Specification section number
 8. Applicable standards, such as ASTM number or Federal Specifications.
 9. A blank space, for Architect's review stamp

1.8 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings, product data, and samples prior to submission.
- B. Include noted and required corrections and indicate by stamp and signature that submittal is acceptable to Contractor. Submittals without stamp and signature will be rejected.
- C. Verify:
 1. Field measurements.
 2. Field Construction criteria.
 3. Conformance with specifications.
- D. Coordinate each submittal with requirements of work and Contract Documents.
- E. Contractor's responsibility for errors and omissions in submittals is not relieved by Architect's review and approval.
- F. Contractor's deviations in submittal requirements shall not relieve Contractor from

completing Contract requirements.

- G. The submittal documents shall be transmitted using the ASD Procore Construction Management Program. Number the submittals with the CSI Section then a dash then the numerical order (01650-1). Resubmittals shall have the same number with an alpha at the end. (01650-1A).
- H. Contractor shall update the Procore Submittal Log on a weekly basis until Submittal Process is complete.

1.9 RESUBMITTAL REQUIREMENTS

- A. Revise initial drawings as required and resubmit as specified for initial submittal.
- B. Indicate on drawings any changes which have been made other than those requested by the Architect.
- C. Project data and samples: Submit new data and samples as required for initial submittal.

1.10 ARCHITECT'S DUTIES

- A. Review submittals with a turn-around time for review of original or resubmittal of no more than fourteen (14) calendar days, except as indicated in paragraph 1.07 B above.
- B. The review will be for conformance to the design concept and compliance with information given in the Contract Document. The Architect will make notations directly on the reproducible.
- C. The review is intended to foresee unacceptable products to avoid the possibility of their rejection at the site. The review shall not be construed as:
 - 1. Permitting a departure from the Contract Documents, unless specifically so noted.
 - 2. Relieving the Contractor of the responsibility for errors or omissions.
 - 3. Acceptance of an assembly in which an approved item is a part.
 - 4. Approval of variations from previously approved items.
 - 5. Approval of dimensions.
- D. The Architect will review all samples. Such review will be for appearance only. Compliance with all other requirements is the responsibility of the Contractor.
- E. Affix stamps and initials or signatures certifying the review of submittal.
- F. Where the Contract Documents require the design of the structural, mechanical, or electrical systems or components of systems by a supplier, such systems or components shall be designed by a registered professional engineer and all calculations submitted to the Architect for his records, prior to starting fabrication or installation of the work. The Architect will not be responsible for the designs of such other Professionals.

1.11 VARIATIONS FROM CONTRACT DOCUMENTS

- A. See Section 01630 for procedure.
- B. If the Contractor fails to mention variations from the Contract Documents, he will not be relieved of the responsibility for executing the work in accordance with the Contract Documents.

1.12 SUBMITTALS FOR COLOR SELECTION

- A. The Contractor shall take particular note that color selections cannot be made for the project until such time as all items requiring color selection have been submitted. After such submittal has been made, the Architect with Owner's concurrence will within fourteen (14) days, make a complete color selection for the entire project.
- B. It will be the contractor's responsibility to review the Contract Documents completely to determine items requiring color selection, obtain color samples from the manufacturer and submit to the Architect at the earliest possible date.

1.13 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

- A. Contractor shall distribute copies of shop drawings and product data which carry Architect's stamp, to:
 - 1. Contractor's file (required)
 - 2. Job-site file (required)
 - 3. Record Documents file (required)
 - 4. Other prime Contractors (as required)
 - 5. Subcontractors (as required)
 - 6. Supplier (as required)
 - 7. Fabricator (as required)
 - 8. Others (as required)

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

AIRBORNE CONTAMINANT CONTROL

PART 1 - GENERAL

1.01 SUMMARY:

A. Related sections:

1. Section 02 26 00 Hazardous Materials Assessment
2. Section 02 41 16 Demolition
3. Section 02 81 00 Hazardous Materials – Summary of Requirements

B. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 DEFINITIONS:

A. "Airborne Contaminants" are those contaminants listed in 29 CFR 1926.55 and 8 AAC 61.1100 that have the potential to become airborne due to various work activities being performed by the Contractor. Additionally, airborne contaminants include those fumes and odors that may be objectionable to personnel in Occupied Areas of the facility even though they are not listed in the reference regulations. Airborne contaminants may be broadly categorized as Pre-Existing or Activity Generated. Contaminant producing activities include, but are not limited to:

1. Demolition, removal, installation and disposal of walls, floors, ceilings, steel, and other architectural or structural materials.
2. Disturbance or removal of existing settled and concealed dusts.
3. Demolition, relocation, installation and disposal of plumbing, mechanical and electrical systems and equipment.
4. Finish operations such as sanding, preparation, painting, and application of special surface coatings.
5. Any construction activity, which can generate aerosols, dust, smoke, or fumes.
6. Temporary heat sources.
7. Other on-site work operations not described above.

B. "Pre-Existing Contaminants" are those contaminants that are present in the facility prior to the start of any work. These contaminants, including asbestos and lead, are also present in settled and concealed dust throughout the building in areas not subject to routine cleaning, including the roof and inside and on top of architectural, mechanical, electrical and structural elements. The dust generally contains several common components including, but not limited to asbestos, cellulose, cotton, fiberglass, lead, silica and other Particulates Not Otherwise Regulated. Representative dusts throughout the facility have been examined and previously sampled by an EPA Certified Building Inspector and determined not to be "asbestos debris" from adjacent "Asbestos-Containing Building Materials" (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts do not contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM). Reference 40 CFR 763.83 for asbestos, and 29 CFR 1926.1153 for silica. Refer to Section 02 26 00, Hazardous Materials Assessment. Dust and debris related to adjacent damaged asbestos containing

materials are addressed in Section 02 82 33, Removal and Disposal of Asbestos Containing Materials.

- C. "Activity Generated Contaminants" are those contaminants generated by the various demolition or construction related activities of the Contractor. Examples of typical Activity Generated Contaminants include wood dust (cellulose), cement dust (silica), gypsum dust (particulates not otherwise regulated), paint fumes, and welding fumes. A complete list of regulated air contaminants is available in 29 CFR 1926.55 and 8 AAC 61.1100.
- D. "Work Areas": Areas of demolition, renovation, construction, adjacent staging and storage areas, and passage areas for workers, supplies, and waste. This may include but is not limited to attic spaces, spaces above ceilings, crawl spaces, mechanical and electrical spaces, confined spaces and other spaces not normally accessed or occupied.
- E. "Occupied Areas": Areas as determined by Owner's Representative and as shown on contract drawings. Typically these include areas adjacent to Work Areas or containment areas, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust, and ductwork. Contaminant control procedures may be relaxed during periods when school is not in session as allowed by the Contractor's approved work plan.
- F. "Critical Clean Areas": Areas inside or outside the Work Area with equipment or occupants that cannot tolerate airborne contamination, and are to be maintained under positive pressure by High-Efficiency, Particulate, Air (HEPA) filtered equipment relative to the surrounding air. These areas will be described or shown in contract documents or drawings.
- G. "Contractor" is defined to include all trades and all subcontractors performing work on the work site.
- H. "Negative Initial Determination" is a determination made either through air monitoring or other objective data that indicates worker exposure to regulated airborne contaminants are below or expected to be below the regulated limits.

1.03 AIRBORNE CONTAMINANT CONTROL

- A. There is no requirement to remove Pre-Existing Contaminants from the facility. The Contractor may remove Pre-Existing Contaminants from their work areas if they determine that to be a more cost effective means of completing the work.
- B. The Contractors shall establish and maintain control over the generation and containment of all potential airborne contaminants so that workers, facilities, students, staff, educational programs, equipment, and operations are not adversely affected, including adverse effects on air monitoring. Construction activities that disturb existing materials or create airborne contaminants must be conducted in Work Areas specifically constructed, ventilated, and/or equipped to prevent the movement of contaminants into Occupied or Critical Clean Areas.
- C. The Contractor shall establish and maintain control over Activity Generated Contaminants within the Work Area to prevent abnormally high levels of airborne contaminants from settling on architectural, mechanical, electrical or structural components within the work areas, or interference with monitoring conducted for other work. The Contractor shall be required to clean all surfaces within a work area where abnormally high levels of Activity Generated Contaminants are deposited.
- D. The Contractor shall ensure that all workers are aware of the Occupied and Critical Clean Areas, the potential air contaminants present and the means and methods established in the work plan to control those contaminants.
- E. The Contractor shall ensure workers have the proper protective equipment needed for the job being performed.

1.04 TRAINING

- A. The Contractor shall ensure that all workers/trades performing work on the project site are trained in accordance with OSHA standards for hazard communication (29 CFR 1910.1200) and proper protective equipment (29 CFR 1926), as well as engineering controls and work methods required to prevent exposure to regulated air contaminants that might be generated or encountered as a result of their work, including 29 CFR 1926.1153.

1.05 RESPONSIBILITY:

- A. Owner's Responsibilities
 - 1. The Owner shall identify in contract documents Occupied Areas and Critical Clean Areas prior to allowing the Contractor to begin work. The Contractor shall be notified of all changes to these areas as work progresses.
- B. Contractor's Responsibilities:
 - 1. Preparing proposed work plans and procedures for control of airborne contaminants during demolition and construction.
 - 2. Identifying and implementing specific means and methods of achieving and maintaining control of airborne contaminants.
 - 3. Controlling the generation and spread of airborne contaminants from the Contractor's Work Areas.
 - 4. Cleaning and decontaminating all areas contaminated as the result of their operation. The Owner has the right to review and approve of any and all clean-up and decontamination procedures, chemicals, and processes.
 - 5. Notifying Owner's Representative a minimum of 48 hours prior to starting construction activities that might be expected to produce excess levels of airborne contaminants in Work Area so that precautions may be taken.

1.06 SUBMITTALS:

- A. Submittals Required: Submit the following documentation to the Owner for approval. The submittal shall be coordinated with all the Contractor's subcontractors and trades and be submitted as one submittal for all work covered by this section. **WORK SHALL NOT PROCEED UNTIL THE SUBMITTAL PACKAGE IS APPROVED, AND THE PRE-CONSTRUCTION MEETING HAS BEEN HELD.**
 - 1. Shop Drawings: Make all shop drawings accurately and to a scale sufficiently large to show all pertinent features of the work. Shop Drawings shall show:
 - a. Boundaries of each Work Area, Occupied Areas and Critical Clean Areas.
 - b. Location of barriers, negative pressure areas, positive pressure areas, and exhaust fan units (if required).
 - c. Locations of windows, louvers, ducts and other penetrations into Occupied Areas and/or Critical Clean Areas that need to be protected from airborne contamination.
 - d. Disposal Routes.
 - e. Locations of contaminant producing operations like painting or sanding which could be moved away from Occupied Areas.
 - 2. Work Plan: The Work Plan shall be prepared for this specific job in the form of checklists and shall include:
 - a. Work area set-up and protection procedures during occupied times.
 - b. Work area set-up and protection procedures during periods of limited occupancy (vacation and holidays).
 - c. Work procedures to minimize generation of airborne contaminants, including a written exposure control plan.
 - d. Worker protection procedures.

- e. Daily cleanup procedures and activities.
 - f. Procedures to follow if air contaminants enter Occupied or Critical Clean Areas.
 - g. Exposure assessment procedures if a “negative initial determination” has not been completed (note that negative initial determinations are not allowed related to silica exposure). A record of “negative initial determinations” shall be maintained by the Contractor and be available on the job site for review by the Owner or regulatory agencies.
3. Safety Data Sheets (SDSs): The Contractor shall maintain on the job site, at a location approved by the owner, SDSs for each encapsulant, surfactant, solvent, detergent, and other material proposed to be used.
- B. Monitoring Results: The Contractor shall submit copies of all air monitoring and testing results to the Owner within 24 hours of receipt of results.

1.07 WORKER PROTECTION:

- A. The Contractor shall review the SDS’s for the substances that will be used, data provided by these specifications, proposed means and methods, manufacturers data and other available data to determine the potential for worker exposure.
- B. Conduct air monitoring of worker exposures as necessary to show that workers are not being exposed above the permissible exposure limits established by 29 CFR 1926 and 8 AAC 61.1100 (negative initial determination). Not all contaminants or substances will require exposure monitoring. All sampling by the Contractor shall be at their own cost.
- C. In lieu of worker exposure monitoring, the Contractor may rely on objective data from recognized trade groups, manufacturer or previous exposure monitoring data that establish that worker exposure above the permissible exposure limits is not probable under conditions “closely resembling” the processes, types of materials, control methods, work practices and environmental conditions in the current job.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION

3.01 WORK PRACTICES:

- A. General: All construction/demolition work shall be isolated, either by enclosures, and/or work practices and equipment to prevent worker exposures above the permissible exposure limit(s), and prevent the migration of contaminants (dust, fumes, smoke, etc.) into Occupied Areas and Critical Clean Areas of the facility. Exposures to occupants shall be maintained at least 10 times lower than the permissible exposure limit(s) for airborne contaminants. Conduct disturbance of concrete, brick, stone, mortar, etc. in accordance with 29 CFR 1926.1153 related to crystalline silica. If the Contractor’s work practices are not effective in controlling airborne contaminants, as evidenced by dust, fumes, smoke, odors, etc. in Occupied or Critical Clean Areas, the Contractor shall provide a sealed barrier at the perimeter of the work area and exhaust the work area to maintain a negative pressure and/or provide a filtered positive pressure to Critical Clean and Occupied areas to keep airborne contaminants out. Maintain a positive pressure of 0.05 inches of water column relative to the air outside the Critical Clean Areas, with a minimum 100 feet per minute velocity through cracks, openings, etc.
- B. Direct exhaust from fume or smoke producing equipment away from building air intakes, windows and other penetrations into Occupied and Critical Clean Areas.
- C. The Contractor shall provide “walk-off” mats, at all connections between Work Areas and Occupied Areas, vacuumed or changed daily when there is traffic between the Work Area and the Occupied Areas.

- D. Enclosures, where used, shall be dust tight and withstand air pressure.
- E. Prohibited Materials: The use or application of the following materials is prohibited:
 - 1. All cleaners and aerosol products not submitted and approved by the Owner.
 - 2. All flammable or chlorinated hydrocarbon solvents, unless approved by the Owner.
- F. Any dust or debris tracked outside of Work Areas into Occupied Areas shall be cleaned up immediately. Contractor shall have the necessary manpower and equipment (dust and wet mops, HEPA vacuums, buckets and clean wiping rags) to keep adjacent Occupied Areas clean at all times.
- G. Dry Sweeping is prohibited. All vacuums used for cleaning shall be equipped with HEPA filters.
- H. Traffic between Work Areas and Occupied Areas shall be kept to a minimum. Keep doors between such areas closed at all times. Transport refuse through Occupied Areas in covered containers.
- I. Notify the Owner's Representative immediately of any release of airborne contaminants into Occupied Areas.

3.02 ENFORCEMENT:

- A. The Contractor shall periodically inspect Occupied Areas at the perimeter of the work area and Critical Clean Areas to verify that airborne contaminants have not spread into those areas.
- B. Failure to properly maintain airborne contaminant control in Work Areas, Occupied or Critical Clean Areas will result in issuance of a written warning. If the problem is not corrected immediately, the Owner will have cause to stop work.
- C. Failure of the Contractor to correct deficiencies in controlling airborne contaminants will result in corrective action taken by the Owner and deduction of all costs from the Contract.

3.03 WORK STOPPAGE:

- A. The Contractor shall stop work and notify the Owner whenever his work has caused visible dust, smoke, fumes or objectionable odors in Occupied or Critical Clean Areas.
- B. When such work stoppage occurs, the area shall be restored to its original condition by the Contractor at no expense to the Owner. The Contractor is responsible for removing dust, fumes and debris that were generated as a result of his work.

3.04 WORK COMPLETION:

- A. Provide thorough cleaning of finished surfaces that become exposed to dust or other airborne contaminants. Cleaning of Pre-Existing contaminants is not required.
- B. Removal of construction barriers and airborne contaminant control equipment shall be performed in a manner to minimize disturbance of airborne contaminants into occupied spaces. HEPA vacuum and clean all finished surfaces free of dust after the removal of barriers and equipment.

END OF SECTION

SCHEDULE OF VALUES

PART 1. GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Schedule of Values.

1.03 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions and Section 00800 Supplemental Conditions of the Construction Contract.
- B. Section 01311 – Project Schedule.

1.04 FORMAT

- A. Schedule of Values shall be submitted on ASD Form 100B.

1.05 CONTENT

- A. List installed value of each major item of work and each subcontracted item of work as a separate line item to serve as a basis for computing values for progress payments. Round off values to nearest dollar.
- B. For each major subcontract, list products and operations of that subcontract as separate line items.
- C. Include work allowances within line item of work.
- D. Coordinate listings with progress schedule.
- E. Component listings shall each include a directly proportional amount of Contractor's overhead and profit.
- F. For items on which payments will be requested for stored products, list the cost of stored products.
- G. The sum of values listed shall equal total contract sum.
- H. In addition to the above, values shall be listed for the following close out items.
 - 1. As-builts.
 - 2. O & M Manuals.
 - 3. Warranties.
 - 4. Landscape Maintenance Warranty.
 - 5. Owner Training.
 - 6. Demobilization (If mobilization is itemized).
 - 7. Project close-out must retain a minimum of \$25,000.00.

1.06 SUBMITTAL

- A. Transmit under transmittal letter. Identify project by title and contract number.

1.07 SUBSTANTIATING DATA

- A. When the Project Manager requires substantiating information, submit data justifying line item amounts in question.
- B. Provide one copy of data with cover letter for each copy of application. Show application number, date and line item by number and description.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

CONSTRUCTION PHOTOGRAPHS

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Construction Photographs.
- B. Submittals.

1.02 RELATED REQUIREMENTS

- A. Section 01720 - Project Record Documents

1.03 PHOTOGRAPHY

- A. Provide photographs of construction throughout progress of work.
- B. Take photographs prior to covering completed work.
- C. Take photographs at beginning and completion of elements of construction.
 - 1. Asbestos Abatement process indicating the phases of abatement including:
 - a. Existing Conditions
 - b. Preparation Prior to Start of Work
 - c. Work in Progress
 - d. Completed Work
 - e. Equipment used for Abatement Processes
 - 2. Roof demolition
 - a. Repairs
 - b. Documentation of interim building protection measures
 - c. Work in Progress
 - d. Completed work
 - e. Include roof designation and locations
 - 3. Air infiltration and/or vapor barrier installation
 - 4. Insulation installation
 - 5. Final completion.
- D. The Contractor, on a daily basis, shall photograph the demolition and abatement process. For their own use and distribution, the Project Manager shall on a regular basis, direct photographs and/or video recordings of construction operations and work in progress.

1.04 IMAGES

- A. Digital images to be uploaded to the ASD Procore Construction Management Program Project Folder daily.
- B. Photo file name to include location, item photographed and orientation of view.

1.05 TECHNIQUE

- A. Provide factual presentation.
- B. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field and minimum distortion.
- C. The Contractor shall furnish access, labor and facilities to assist photographer(s). Photographs shall be taken with a Digital type camera with flash attachment in working order.
 - 1. Furnish the Project Manager with a quantity equal to minimum ten (10) photographs per work area per day ISO appropriate to lighting conditions.

1.06 VIEWS

- A. Consult with Project Manager for instructions on views required.
- B. Locations of photos. It is preferred to have similar angles and locations of existing conditions, in progress and complete photos.

1.07 SUBMITTALS

- A. All photos to be loaded in Procore and labelled.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

QUALITY CONTROL

PART 1. GENERAL

1.01 RELATED REQUIREMENTS

- A. Section 00700 - General Conditions and Section 00800 – Supplemental Conditions to the Construction Contract.
- B. Section 01090 - Reference Specifications and Standards.
- C. Section 01300 - Submittals.
- D. Section 01410 - Testing Laboratory Services.
- E. Section 01420 - Special Inspections

1.02 GENERAL REQUIREMENTS

- A. The contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with this section. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.

1.03 QUALITY CONTROL PLAN

- A. The Contractor shall furnish for review by the Owner, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of this section. The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used.
 - 1. Content of the CQC Plan: The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:
 - a. A description of the quality control organization, including the name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function, including the person assigned responsibility of CQC manager.
 - b. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Owner.)
 - c. Procedures for tracking preparatory and follow-up control phases, verification, and acceptance tests, including documentation.
 - d. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
 - e. Reporting procedures, including proposed reporting formats.
 - f. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section.
 - 2. Acceptance of Plan: Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Owner reserves the right to require the

Contractor to make changes in the CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3. Notification of Changes: After acceptance of the CQC Plan, the Contractor shall notify the Owner in writing of any proposed change. Proposed changes are subject to acceptance.

1.04 COORDINATION MEETING

- A. After the Preconstruction Conference and before start of construction, the Contractor shall meet with the Project Manager to discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 15 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship with the Owner's special inspection personnel. Minutes of the meeting shall be prepared by the Contractor and signed by both the Contractor and the Project Manager.

1.05 QUALITY CONTROL ORGANIZATION

- A. CQC Manager: The Contractor shall identify as CQC Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC Manager shall be a person with a minimum of ten (10) years' experience in construction with a minimum of three (3) years' experience in Quality Control Management or Construction Inspection, preferably with some formal Quality Control training. This CQC Manager shall be on the site at all times during construction and shall be employed by the prime Contractor.
- B. CQC Personnel: In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC Manager for the following areas: electrical, mechanical, structural, and architectural. Each of these individuals must have either an engineering degree in their respective field and two years of experience or five (5) years of related experience. These individuals are to be responsible to the CQC Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with this section. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan.
- C. ASD CQC Testing Requirements: See Attachment 1 below.

ASD CQC TESTING REQUIREMENTS

MATERIAL TESTED	CHARACTERISTIC TESTED	SAMPLE FREQUENCY	SAMPLING POINT	REPORT DUE
CLASSIFIED FILL MATERIAL AND BACKFILL (TYPE II, TYPE IIA, BLENDED, ETC.)	GRADATION	1 PER SOIL TYPE AND NOTABLE CHANGE IN CHARACTERISTICS	PRIOR TO PLACEMENT	BEFORE USE ON PROJECT
	MOISTURE DENSITY (PROCTOR)			
	COMPACTION/DENSITY	STRUCTURAL = 1 PER LIFT & PER 500 S.F. TRENCHES = 1 PER LIFT & PER 150 L.F. FLATWORK = 1 PER LIFT & PER 5000 S.F.	IN PLACE	PRIOR TO NEXT LIFT

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LEVELING COURSE (D-1, RAP, ETC.)	GRADATION	1 PER SOIL TYPE AND NOTABLE CHANGE IN CHARACTERISTICS	PRIOR TO PLACEMENT	BEFORE USE ON PROJECT
	MOISTURE DENSITY (PROCTOR)			
	COMPACTION/DENSITY	FLATWORK = 1 PER LIFT & PER 5000 S.F.	IN PLACE	PRIOR TO NEXT LIFT
STRUCTURAL IN-SITU BASE OF EXCAVATION (BOTTOM OF HOLE)	GRADATION	1 PER IN-SITU STRUCTURAL BOTTOM OF HOLE AND NOTABLE CHANGE IN CHARACTERISTICS	PRIOR TO PLACEMENT	BEFORE BUILDING UPON
	MOISTURE DENSITY (PROCTOR)			
	COMPACTION/DENSITY	BASE OF EX. = 1 PER FOUNDATION AREA	IN PLACE	BEFORE BUILDING UPON
STRUCTURAL CONCRETE	SAMPLING	1 MINIMUM PER PLACEMENT, PER DAY (1-25 C.Y.), 1 EVERY 50 C.Y. THEREAFTER. 1 AFTER EACH ADDITION OF ADMIXTURE OR WATER (SLUMP AND AIR ONLY AFTER ADDING ONLY WATER)	POINT OF PLACEMENT (NOT @ TRUCK)	REPORT-24 HRS VERBAL-TIME OF TEST
	SLUMP			
	AIR CONTENT			
	TEMPERATURE			
	COMP. STRENGTH			7 & 28 DAYS
ARCHITECTURAL & CIVIL CONCRETE	SAMPLING	1 MINIMUM PER PLACEMENT, PER DAY (1-25 C.Y.), 1 EVERY 100 C.Y. THEREAFTER.	POINT OF PLACEMENT OR TRUCK CHUTE	REPORT-24 HRS VERBAL-TIME OF TEST
	SLUMP			
	AIR CONTENT			
	TEMPERATURE			
	COMP. STRENGTH			7 & 28 DAYS
STRUCTURAL GROUT (BASEPLATES, CMU, ETC.)	SAMPLING	1 PER PLACEMENT, PER DAY	BATCH POINT (ENSURE BATCH CONFORMS TO MFR SPECS)	REPORT-24 HRS VERBAL-TIME OF TEST
	SLUMP			
	AIR CONTENT			
	TEMPERATURE			
	COMP. STRENGTH			7 & 28 DAYS
AC PAVING	GRADATION	1 PER PLACEMENT, PER DAY AND EVERY 700 TONS THEREAFTER.	BEHIND PAVER & PRIOR TO COMPACTION	REPORT-24 HRS VERBAL-TIME OF TEST OR OBSERVATION
	CONTENT			
	COMPACTION/DENSITY	1 PER 5000 S.F.	AFTER FINAL ROLL	
	VISUAL	OBSERVE & DOCUMENT DEPTH, AGGREGATE SIZE, VOIDS IN AGGREGATE, OIL POOLING, ETC. VERIFY BATCH TICKET MIX DESIGN & PROJECT	DURING PLACEMENT	
CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCURRED FOR RETESTS, REINSPECTIONS, REPLACEMENT OF NON-CONFORMING PRODUCTS. OWNER EMPLOYED SPECIAL INSPECTION VERIFICATION AND TESTING IS IN ADDITION TO THE CONTRACTOR'S QUALITY CONTROL TESTING. SPECIAL INSPECTION IN NO WAY DIMINISHES OR REDUCES THE CONTRACTOR'S QUALITY CONTROL OBLIGATIONS.				

1.06 CONTROL

- A. Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least two phases of control shall be conducted by the CQC Manager for each definable feature of work as follows:
1. Preparatory Phase: This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved, and after copies are at the work site. This phase shall include:
 - a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by the Owner until final acceptance of the work.
 - b. A review of the contract drawings.
 - c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
 - d. Review of provisions that have been made to provide required control inspection and testing.
 - e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
 - f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
 - g. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Documentation of construction tolerances and workmanship standards for that feature of work.
 - h. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Project Manager.
 - i. Discussion of the initial control phase.
 - j. The Owner shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC Manager and attended by the Superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.
 2. Follow-up Phase: Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted, and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

1.07 TESTS

- A. Testing Procedure: The Contractor shall provide inspections, tests, and similar quality control services, specified in individual Specification Sections, and required by governing authorities, (Costs for these services shall be included in the Contract Sum). Upon request, the Contractor shall furnish to the Owner duplicate samples of test specimens for possible testing by the Owner. Testing includes operation and/or acceptance tests when specified. The Contractor

shall perform the following activities and record and provide the following data:

1. Verify that testing procedures comply with contract requirements.
 2. Verify that facilities and testing equipment are available and comply with testing standards.
 3. Check test instrument calibration data against certified standards.
 4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
 5. Results of all tests taken, both passing and failing, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Project Manager, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Project Manager. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.
- B. Retesting: The Contractor is responsible for retesting where results of required inspections, tests, or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- C. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests, and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
1. Providing access to the Work, approved plans, and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 2. Providing facilities for storage of all special inspection reports at the Project site and make available for review by the authorities having jurisdiction.
 3. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 4. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 5. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 6. Security and protection of samples and test equipment at the Project site.
- D. Correction of Work: The Contractor shall bear all costs of correcting all Work identified as defective or as failing to conform to the Contract Documents, including any additional Owner Inspection Costs, and additional compensation for the Architect's and/or Project Manager's additional services made necessary thereby.
- E. Qualification for Laboratory Agencies: Engage inspection and testing service agencies, including independent testing laboratories free of conflict on interests with the General Contractor, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and testing to be performed.
1. Each independent inspection and testing agency engaged on the Project shall be

authorized by the authorities having jurisdiction to operate in the State of Alaska and the Municipality of Anchorage.

2. The Owner reserves the right to direct the specific location or area of work to be tested in accordance with contract requirements.

1.08 SPECIAL INSPECTIONS

- A. The Owner will provide Special Inspections, tests, and similar quality control services as identified in Section 01420, "Special Inspections". Costs for the Special Inspection services are not included in the Contract Sum.
- B. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Specification Sections shall cooperate with the Owner's Representative and Contractor in performance of its duties and shall provide qualified personnel to perform required inspections and tests.
 1. The agency shall notify the Project Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
 3. Special Inspection agency shall not perform any duties of the Contractor, nor be under contract to perform testing services required of the Contractor.
- C. Coordination: The Contractor and each agency engaged to perform inspections, tests, and similar services shall coordinate the sequence of activities to accommodate required services. In addition, the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
 1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.
 2. The Contractor shall notify the Owner's Special Inspectors, and the Owner, in writing 72 hours prior to required special inspection and coordinate with these inspectors so there are no additional project costs, schedule impacts or delays. The Contractor shall also be responsible to coordinate with the special inspectors and the Owner to identify on the construction schedule when these inspections shall occur.

1.09 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place in positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from the Project Manager before proceeding.

1.11 MANUFACTURER'S FIELD SERVICE

- A. When required by individual Specifications Section, submit manufacturer's certificate, signed

- by responsible officer of the Manufacturer, that products meet or exceed specified requirements.
- B. When required by manufacturer, have manufacturer provide qualified representative to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable. Manufacturer Field Representative shall make a written report of observations and recommendations to the Project Manager.

1.12 SAMPLE PANELS AND MOCK-UPS

- A. Sample panels and/or mock-ups shall be used to establish uniform level of workmanship and finish color and texture. Accepted sample or mock-up shall serve as minimum standard of quality for subsequent work.
- B. Work on any Section requiring a sample panel or mock-up shall be approved in writing by the Owner.
- C. Sample panels or mock-ups may be requested by the Owner even though not specifically required of Specification Section to clarify level of workmanship, color, or texture.
- D. Tests shall be performed in accordance with Section 01410 and this section.

1.13 OBSERVATION

The following stages of construction specifically require observation by the Architect, Owner, and other Authorities having jurisdiction. Provide the indicated notice to the Project Manager prior to commencing work on the phase or upon completion as appropriate:

- A. Stages that require two day notice include:
1. Completion of utility trench excavation prior to placement of bedding.
 2. Completion of utility pipe installation prior to backfill.
 3. Completion of subdrain system's drainage mat and perforated pipe prior to backfill.
 4. Completion of driveway, parking lot and sidewalk excavation, installation of geotextile fabric and backfill prior to placement of pavement.
 5. Completion of asphalt concrete pavement placement.
 6. Completion of portland cement concrete pavement placement.
 7. Completion of building excavation, geotextile fabric installation, and backfill prior to placement of concrete floor slab.
 8. Completion of excavation forming prior to concrete placement.
 9. Completion of concrete masonry, as damp-proofing work is beginning.
 10. Wall framing and sheathing completed, observation of shear wall fastening and connections.
 11. Mechanical and electrical rough-in and wall blocking, prior to cover.
 12. Insulation and vapor barrier installation prior to cover, observation required as work progresses, notify as phases are complete.
 13. Completion of mock-ups and finishes as mock-ups and areas are completed.
 14. Prior to beginning roofing.
- B. Stages that require five day notice include:
1. Substantial Completion.
 2. Operational instructions.
 3. Final Completion.

1.14 COMPLETION INSPECTION

- A. Punch-Out Inspection: Near the end of the work, or any increment of the work established by a time stated in the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by Section 01400, paragraph 1.15 A.4. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Owner that the facility is ready for the Owner Substantial inspection.
- B. Final Inspection: The Contractor's Quality Control Inspection personnel shall be in attendance at the final inspection.

1.15 DOCUMENTATION

- A. The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:
 - 1. Contractor/Subcontractor and area of responsibility.
 - 2. Operating equipment with hours worked, idle, or down for repair.
 - 3. Work performed each day, giving location, description, and by whom.
 - 4. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified. List of deficiencies noted, along with corrective action.
 - 5. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawing requirements.
 - 6. Offsite surveillance activities, including actions taken.
 - 7. Instructions given/received and conflicts in plans and/or specifications.
 - 8. Any other remarks impacting quality control.
 - 9. Contractor's verification statement.
- B. These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Owner on a weekly basis within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. Reports shall be signed and dated by the CQC Manager. The report from the CQC Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

1.16 NOTIFICATION OF NONCOMPLIANCE

- A. The Project Manager will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

TESTING LABORATORY SERVICES

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Contractor will employ and pay for the services of an independent testing laboratory, free of conflict of interests with the General Contractor, to perform specified testing.
- B. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of the contract.
- C. Inspection, sampling and testing required as called for in the following technical sections.
- D. The Contractor shall pay for re-inspections and re-testing required because of defective work or ill-timed notices.

1.02 RELATED REQUIREMENTS

- A. Article 7.7, Section 00700 - General Conditions.
- B. Inspections and testing required by laws, ordinances, rules, regulations, orders, project Contract Documents, or approvals of public authorities.
- C. Certification of Products: Respective Sections of Specifications.
- D. Test, Adjust, and Balance of Equipment: Respective Sections of Specifications.
- E. Each Specification Section Listed: Laboratory test required, and standards for testing.

1.03 QUALIFICATIONS OF LABORATORY

- A. Independent laboratory acceptable to Owner, Architect and Building Official.
- B. Meet "Recommended Requirements for Independent Laboratory Qualification" latest edition, published by American Council of Independent Laboratories, 1300 "I" Street N.W., Washington, D.C. 20005.
- C. Meet ASTM E-329 latest edition, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as used in Construction."

1.04 LABORATORY'S DUTIES

- A. Laboratory authorized to operate in Alaska, with a full-time engineer registered in Alaska on staff to review services.
- B. Ascertain and certify compliance with Contract Documents.
- C. Promptly submit, unless otherwise indicated, written Inspection and Test Report to each of the following within forty-eight hours of inspection:
 - 1. Owner: Two (2) copies
 - 2. Architect: Two (2) copies
 - 3. Contractor: Two (2) copies or as required

D. Include the following on Test Reports:

1. Date issued.
2. Project title and location.
3. Testing Laboratory name and address.
4. Inspector's name.
5. Date of inspection or sampling.
6. Record of temperature and weather.
7. Date of test.
8. Identification of product tested.
9. Test location in Project.
10. Type of inspection or test.
11. Observations regarding compliance with Contract Documents.

E. Laboratory is not authorized to:

1. Release, revoke, alter, or enlarge on Contract Document requirements.
2. Approve or accept any portion of work.
3. Assume any duties of Contractor.
4. Stop Work.

1.05 CONTRACTOR'S DUTIES

- A. Cooperate with laboratory personnel, provide access to work, and to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representation samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.
- D. Furnish copies of products test reports as required.
- E. Furnish incidental labor and facilities:
 1. To provide access to work to be tested.
 2. To obtain and handle samples at the project site or at the source of the project to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test samples.
- F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests. Twenty-four hour minimum notification.
 1. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- G. Notify Architect and Owner a minimum twenty-four hours in advance of any testing.
- H. Repair test holes to match original conditions.
- I. Quality Control is the responsibility of the General Contractor. The General Contractor should employ a testing firm to provide testing as required to monitor and maintain his own quality control program, as well as satisfy the specific requirements of the Contract Documents.

1.06 OWNER'S TESTING LABORATORY SERVICES

- A. The Owner may also employ and pay for the services of an Independent Testing Laboratory to perform specified testing as indicated in the Supplementary General Conditions and in this section. This testing service will be employed for Quality Assurance Only. QUALITY CONTROL IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- B. The Contractor shall cooperate with the Owner's laboratory to facilitate the execution of its services.
- C. A copy of the Owner's laboratory written report of each test will be distributed to the Contractor.
- D. When initial tests indicate work does not comply with the Contract Document, all additional tests required, until tests pass, shall be at the expense of the Contractor.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

SPECIAL INSPECTIONS

PART 1. GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Purpose
- B. Types of Work
- C. Owner Responsibilities
- D. Engineer or Architect of Record Responsibilities
- E. Contractor Responsibilities
- F. Special Inspector Responsibilities

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to this Section.
 - 1. Section 00700 - General Conditions and Section 00800 – Supplemental Conditions of the Construction Contract.
 - 2. Section 01090 - Reference Specifications and Standards
 - 3. Section 01300 - Submittals
 - 4. Section 01400 - Quality Control Services

1.03 REFERENCES

- A. International Building Code (IBC) - SECTION 1704 - SPECIAL INSPECTIONS
- B. Uniform Administrative Code (UAC) - SECTION 306 - SPECIAL INSPECTIONS

1.04 PURPOSE OF SPECIAL INSPECTIONS

- A. In accordance with IBC Section 1704.1 General "In addition to the inspections required by Section 109, the owner or the engineer or architect of record acting as the Owner's agent shall employ one or more special inspectors who shall provide inspections during construction on the types of work listed under 1704."

1.05 TYPES OF WORK

- A. Except as provided in IBC Section 1704, the types of work listed below shall be inspected by a Special Inspector.
 - 1. Concrete.
 - 2. Bolts installed in concrete.
 - 3. Reinforcing steel in concrete.
 - 4. Structural welding.
 - 5. High-strength bolting.
 - 6. Structural masonry.
 - 7. Spray-applied fireproofing.
 - 8. Special grading, excavation, and filling.

- B. Continuous and Periodic Special Inspection and Approved Fabricators shall be a part of the Special Inspection requirements.

1.06 OWNER RESPONSIBILITIES

- A. The Owner or the Engineer or Architect of Record acting as the Owner's agent shall employ one or more Special Inspectors who shall provide inspections during construction on the types of work listed.
- B. The Owner shall be responsible for providing a full set of drawings and specifications to each Special Inspector.

1.07 ENGINEER OR ARCHITECT OF RECORD

- A. The Engineer or Architect of Record, under the Owner's direction, may be required to employ one or more Special Inspectors who shall provide inspections during construction on the types of work listed under IBC Section 1704.
- B. The Engineer or Architect of Record, under the Owner's direction, may be responsible for coordinating the Pre-Construction Meeting, with the Contractor, to include Special Inspectors for the purpose of reviewing the Special Inspection Program and responsibilities of each member.
- C. The Engineer or Architect of Record is responsible for clearly indicating the design parameters and material selection on the project plans and/or specifications.
- D. The Engineer or Architect of Record shall determine when and where Special Inspection is necessary in order to meet requirements of the Code.
- E. It shall be the responsibility of the Architect or Engineer of Record to prepare a typewritten Special Inspection Program for submittal to the Building Official for review and approval (UAC 302.5). Such approval shall be obtained prior to issuance of a Building Permit.
- F. Design changes required to correct non-conforming work already incorporated into the completed construction, shall be identified to the Building Official for review and approval as a Change Order. Such Changes shall be generated by the Engineer or Architect of Record.

1.08 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall be responsible for calling a Pre-Construction meeting to review Special Inspection requirements as they pertain to the project. Attendees shall include the Contractor's Construction Supervisor, ASD Project Manager, the Engineer or Architect of Record, the Building Safety Division Inspector assigned to the project, all Special Inspectors, and any subcontractors who will actually be constructing items requiring Special Inspection. This meeting shall not be considered a substitute for any pre-construction meeting held between the Contractor and the Owner and Engineer or Architect of Record although they may coincide.
- B. The Contractor shall be responsible for notifying the Special Inspector or special inspection firm regarding required special inspections. Notice shall be a minimum of 24 hours in advance.
- C. The Contractor shall have on site at all times, an approved set of plans and construction documents available to the Special Inspector for the purpose of reference or clarification.

- D. The Contractor shall be responsible for retaining, on site, a copy of all Special Inspection records submitted by the Special Inspector.

1.09 SPECIAL INSPECTOR RESPONSIBILITIES

- A. The Special Inspector shall observe the work assigned for conformance with the approved design drawings and specifications.
- B. Special Inspectors requiring certification by an agency such as ICBO, ACI, or AWS shall carry current certification with them while performing the Work on site.
- C. The Special Inspector shall remain on site at all times when work requiring Special Inspection is in progress.
- D. The Special Inspector shall immediately bring all nonconforming items of work or material to the immediate attention of the Contractor for correction.
- E. The Special Inspector or Inspection Firm shall submit required written reports to the Building Official (two copies), the Owner, and the Engineer or Architect of Record within 48 hours of inspection.
- F. Special Inspectors or Inspection Firms shall submit a final signed report to the Building Safety Division stating that all items requiring Special Inspection were, to the best of their knowledge, in conformance with the approved design drawings, specifications, approved change orders and the applicable workmanship provided in the International Building Code. Items not in conformance, unresolved items, and any discrepancies in inspection coverage shall be specifically itemized in the final report.
- G. Special Inspectors shall meet all certification requirements stated in the Special Inspection Program and required by the Municipality of Anchorage Building Safety Division and shall maintain certification at all times throughout the project.

END OF SECTION

STRUCTURAL OBSERVATION

PART 1. GENERAL

1.01 REQUIREMENT INCLUDED

- A. Purpose
- B. Types of Work
- C. Owner Responsibilities
- D. Engineer or Architect of Record Responsibilities
- E. Contractor Responsibilities
- F. Structural Observer Responsibilities

1.02 REFERENCES

- A. International Building Code (IBC)–Section 1709 STRUCTURAL OBSERVATION.

1.03 PURPOSE OF STRUCTURAL OBSERVATION

- A. In accordance with IBC Section 1709, the purpose of Structural Observation is as defined in IBC Section 1702.1: Visual observation of the structural system, for general conformance to the approved plans and specifications, at significant construction stages and at completion of structural system. Structural Observation does not include or waive the responsibility for the inspections required by other sections of the IBC.

1.04 TYPES OF WORK

- A. The Design Structural Engineer or another engineer designated by the Design Structural engineer shall perform Structural Observation.
- B. Observed deficiencies shall be reported in writing to the Owner's Representative, Special Inspector, Contractor, and the Building Official.
- C. The Structural Observer shall submit to the Building Official a written statement that the site visits have been made and identifying any reported deficiencies that, to the best of the Structural Observer's knowledge, have not been resolved.

1.05 OWNER'S RESPONSIBILITIES

- A. The Owner or the Engineer or Architect of Record acting as the Owner's Agent shall employ one or more Structural Observers who shall provide structural observation during construction on the types of work identified under IBC Section 1709.

1.06 ENGINEER OR ARCHITECT OF RECORD

- A. The Engineer or Architect of Record, under the Owner's direction, may be required to employ one or more Structural Observers who shall provide inspections during construction on the types of work defined under IBC Section 1709.

- B. The Engineer or Architect of Record, under the Owner's direction, with the Structural Observer, will review with the Contractor the Structural Observer Program and responsibilities of each member.
- C. The Engineer or Architect of Record is responsible for clearly indicating the design parameters and material selection on the project plans and/or specifications.
- D. The Engineer or Architect of Record shall determine when and where Structural Observation is necessary in order to meet requirements of the Code.
- E. Design changes required to correct non-conforming work already incorporated into the completed construction, shall be identified to the Building Official for review and formal approval. Such changes shall be generated by the Engineer or Architect of Record.

1.07 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall be responsible for calling a Structural Observation Organizational meeting to review the Structural Observation requirements as they pertain to the project. Attendees shall include the Contractor's Construction Supervisor, ASD Project Manager, the Engineer or Architect of Record, the Building Safety Division Inspector assigned to the project, all Structural Observers, and any subcontractors who will actually be constructing items requiring Structural Observation. This meeting shall not be considered a substitute for any pre-construction meeting held between the Contractor and the Owner and Engineer or Architect of Record although they may coincide.
- B. The Contractor shall have on site at all times, an approved set of plans and construction documents available to the Structural Observer for the purpose of reference or clarification.
- C. The Contractor shall be responsible for retaining, on site, a copy of all Structural Observation records submitted by the Structural Observer.

1.08 STRUCTURAL OBSERVER RESPONSIBILITIES

- A. The Structural Observer shall observe the work assigned for conformance with the approved design drawings and specifications.
- B. The Structural Observer shall remain on site at all times when work requiring Structural Observation is in progress.
- C. The Structural Observer shall immediately bring all nonconforming items of work or material to the immediate attention of the Contractor for correction.
- D. The Structural Observer shall submit required written reports to the Building Official (two copies), the Owner, and the Engineer or Architect of Record within 48 hours of inspection.
- E. The Structural Observers shall submit a final signed report to the Building Safety Division stating that all items requiring Structural Observation were, to the best of their knowledge, in conformance with the approved design drawings, specifications, approved change orders and the applicable workmanship provided in the International Building Code. Items not in conformance, unresolved items, and any discrepancies in inspection coverage shall be specifically itemized in the final report.

END OF SECTION

TEMPORARY FACILITIES AND CONTROLS

PART 1. GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Specific administrative and procedural minimum actions are specified in this section as extensions of provision in General Conditions and other Contract Documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication that such temporary activity is not required for successful completion of the work and compliance with requirements of Contract Documents. Provisions of this section are applicable to, but not by way of limitation, utility services, construction facilities, support facilities, and security-protection provisions.

1.02 QUALITY ASSURANCE

- A. In addition to compliance with governing regulations and rules/recommendations of utility companies, comply with specific requirements indicated and with applicable local codes and industry standards for construction work.

1.03 JOB CONDITIONS

- A. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
- B. Conditions of Use: Install, operate, maintain, and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary, and protective of persons and property, and free of deleterious effects.
- C. Pay all costs for such general services and temporary facilities, except as otherwise specified, until final acceptance of the work and/or Owner's beneficial occupancy of completed portions of the work.

PART 2. PRODUCTS

2.01 MATERIALS

- A. Materials may be new or used but must be suitable and adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.
- B. New electrical utility drops and new transformers will be installed by the local electric utility and is not a part of the scope of work. Permanent electrical service and distribution from the new transformer is required and made a part of Scope of Work to be complete for Substantial Completion.

PART 3. EXECUTION

3.01 TEMPORARY FACILITIES

A. Sanitary Facilities

1. Provide and maintain temporary sanitary toilets in number required, location directed, and types approved by the regulatory authorities.

B. Electricity

1. Make all arrangements and pay for temporary electrical service to the construction area. Provide all equipment necessary for temporary power and lighting, and pay all charges for this equipment, and the installation thereof. Verify that electrical service is of adequate capacity for all construction tools and equipment without overloading the facilities.
2. Provide power distribution as required throughout for construction operations of all trades. The termination of power distribution shall be at convenient locations in the building. Terminations shall be provided for each voltage supply complete with circuit breakers, disconnect switches, and other electrical devices as required to protect the power supply system.
3. A temporary lighting system shall be furnished, installed and maintained as required to satisfy minimum requirements of safety and security. The temporary lighting system shall afford general illumination in all building areas and shall supply no less than 1-watt per square foot of floor area for illumination in the areas of the building where work is being performed.
4. All temporary equipment and wiring for power and lighting shall be in accordance with the applicable provisions of the governing codes. All temporary wiring shall be maintained in a safe manner and utilized so as not to constitute a hazard to persons or property.
5. When permanent electrical power and lighting systems are in operating condition they may be used for temporary power and lighting for construction purposes, provided that Contractor assumes full responsibility for the entire power and lighting systems and pays for power consumption until final acceptance or beneficial occupancy, whichever is first.
6. At the completion of the construction work all temporary wiring, lighting and other temporary electrical equipment devices shall be removed.

- C. Heating, Cooling and Ventilation: Furnish by approved methods, temporary heat including fuel and power as required to protect materials and work from dampness and cold and to dry out the facility. New permanent heating system may be used for this purpose; however, such use shall not relieve Contractor of Guarantee responsibilities. Refer to individual sections for temperatures to be maintained for the work of the various trades. If the permanent heating is used for temporary heat, ducts shall be completely cleaned of dust and dirt and all filters replaced if "throw-away" type or cleaned if permanent type prior to occupancy.

D. Water Service

1. Provide all water necessary for construction purposes.
2. Furnish drinking water with suitable containers and cups for use of employees. Drinking water dispensers shall be conveniently located in the building where work is in progress.

3.02 TEMPORARY CONTROLS

A. Access Provisions

1. Provide ramps, stairs, ladders, and similar temporary access elements as reasonably required to perform the work and facilitate its inspection during installation. Comply with reasonable requests of governing authorities performing inspections.

B. Environmental Control

1. Provide and maintain all fences, barricades, lights, shoring and other protective structures or devices necessary for the safety of workmen, equipment, the public and property as required by state or municipal laws and regulations, and local ordinances, laws and other requirements of the municipality, state, and other authorities having jurisdiction with regard to safety precautions, dust control, and fire hazards.

C. Security and Protection Provisions.

1. The types of temporary security and protection provisions required include, but not by way of limitation, fire protection, personnel security program (theft prevention), and similar provisions intended to minimize property losses, personal injuries, and claims for damages at project site throughout construction period.
2. Building Enclosure and Lock-up: At earliest possible date secure building against unauthorized entrance at times when personnel are not working. Provide secure temporary enclosures at ground floor and other locations of possible entry, with locked entrances.
3. Fire Extinguishers: Provide types, sizes, numbers, and locations as would be reasonably effective in extinguishing fires during early stages by personnel at project site. Provide Type ABC dry chemical extinguishers; comply with recommendations of NFPA 10. Post warning and instructions at each extinguisher location, and instruct all personnel at project site, at time of their first arrival, on proper use of extinguishers and other available facilities at project site. Post local fire department call number on each telephone at project site.
4. Before beginning any work that may result in a fire alarm transmission, the contractor shall call both the Anchorage Fire Department dispatcher at 522-1122 and the local fire station which would respond to an alarm and let them know you will be working on the system and for approximately how long. Second, the contractor shall call Guardian Security at 274-5275 and notify the dispatcher that you have called the Fire Department, what type of work you are planning to do, and approximately how long before you expect to be completed. After the contractor is completed with your work, you must reverse the process by notifying the Fire Department dispatcher and the ASD Dispatcher that you are finished.

3.03 REMOVAL

- A. Maintain all temporary facilities and controls as long as needed for safe and proper completion of Work. Remove all such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by Project Manager. Clean and repair damage caused by temporary installations or use of temporary facilities. Restore existing facilities used for temporary services to specified or original condition.

END OF SECTION

MAINTENANCE OF TRAFFIC

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. When working adjacent to school playgrounds, provide flagmen. Payment for such flagging and protective flagmen services shall be borne by Contractor.
- B. Contractor shall retain responsibility for traffic operations and protective measures to assure safe flow of traffic. Contractor shall cooperate with Owner so that traffic flow is minimally impeded by execution of work under this Contract.

1.02 SUBMITTALS

- A. Prior to starting any work, Contractor shall submit to the Authority having Jurisdiction and the Project Manager, detailed plan of his proposed method for controlling traffic at each affected location. Proposed traffic control plan shall show and describe proposed locations and time durations covering the following:
 - 1. Vehicular traffic routing including School Buses.
 - 2. Traffic blockage anticipated to be caused by work under this contract.
 - 3. Address conflicts between Pedestrian and vehicular traffic.

1.03 TRAFFIC MAINTENANCE FACILITIES

- A. Other than as shown on approved traffic control plans, at no time shall Contractor's operations interfere with safe and orderly operation of school. Encroachment by Contractor's operations will not be permitted.
- B. For duration of Contract, Contractor shall immediately repair or replace any and all appurtenances damaged or destroyed in performance of work included herein.
- C. Upon completion of work, temporary traffic maintenance items furnished by Contractor shall remain his property and shall be removed from site by Contractor.
- D. Contractor shall utilize dust control methods to control dust on access streets and project site to satisfaction of the Project Manager.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

PROJECT SIGN

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. Furnish, install, and maintain project identification sign.
- B. Project sign must be approved and permitted, prior to erections. Allow no other signs to be displayed.

1.02 PROJECT IDENTIFICATION

- A. Painted sign of 32 sf. area with painted graphic, or printed vinyl sign, content to include:
 - 1. Title of project
 - 2. Name of Owner.
 - 3. Names of professional consultants
 - 4. Prime contractor.
 - 5. Major subcontractors.
 - 6. An area 18" square for Owner logo.
- B. Graphic design, style of lettering, and colors: As shown in this section.
- C. Erect on the site at a lighted location of high public visibility as approved by Project Manager.

1.03 QUALITY ASSURANCE

- A. Sign Painter: Professional experience in type of work required.
- B. Finishes, Painting: Adequate to resist weathering and fading during scheduled construction period.

PART 2. PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and Framing: may be new or used, wood or metal, in sound condition structurally adequate to work and suitable for specified finish.
- B. Sign Surfaces: Exterior softwood plywood with medium density overlay, standard large sizes to minimize joints. Thickness as required by standards to span framing members, to provide even, smooth surface without waves or buckles.
- C. Rough Hardware: Galvanized.
- D. Paint: Exterior quality semi-gloss Alkyd, as specified in painting specification.
- E. Vinyl Lettering and Graphics may be considered upon submittal to Project Manager.

PART 3. EXECUTION

3.01 PROJECT SIGN

- A. Paint exposed surfaces of supports, framing, and surface material; one coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes and colors selected.

3.02 MAINTENANCE

- A. Maintain sign and supports in a neat, clean condition; repair damages to structure, framing or sign.

3.03 REMOVAL

- A. Remove sign, framing, supports, and foundations at completion of the project.



END OF SECTION

MATERIALS AND EQUIPMENT

PART 1. GENERAL

1.01 DESCRIPTION

- A. Materials and Equipment incorporated into Work shall:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type, and quantity specified, unless otherwise approved in writing.
- B. Manufactured and Fabricated Products:
 - 1. Manufacture like parts of duplicate units to standard size and gauges, and to be interchangeable.
 - 2. Two or more items of same kind shall be identical, and by same Manufacturer.
 - 3. Products shall be suitable for service conditions.
 - 4. Equipment shall comply with capacity, sizes, and dimensions shown or specified, unless otherwise approved in writing.
- C. Do not use materials or equipment for any purpose other than that for which designed or specified.

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work
- B. Section 01340: Shop Drawing, Product Data and Samples.
- C. Section 01630: Substitution and Product Option
- D. Section 01710: Cleaning

1.03 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard, select any product meeting standard.
- B. For products specified by naming several products, select any of such products.
- C. For products specified by naming one or more products and "or approved", select any one specified product or submit request for substitution as specified.

1.04 INAPPROPRIATE PRODUCTS AND METHODS

- A. If Contractor believes that any specified product, method, or system is inappropriate for use, he shall, if possible, so notify the Project Manager at least ten (10) working days prior to bid opening, and if not possible, such notice shall be given before performing work in question. If notice of objection is not received within the specified time limits, it will be assumed that Contractor agrees that specified products, methods, and systems are not inappropriate for use.
- B. No asbestos containing materials are to be incorporated into the project. Certification signed by the General Contractor shall state that Asbestos Containing materials have not been installed under this project. Turn certification in to Project Manager no later than first payment application submittal. Recertify to Owner at substantial completion inspection.

1.05 PRODUCT SUBSTITUTIONS

- A. Refer to Section 01630.

1.06 NUMBER OF PRODUCTS REQUIRED

- A. Whenever in specifications a product is referred to in singular number, such reference shall include as many such products as are shown on Drawings are required to complete the Work.

1.07 PRODUCTS LIST

- A. Submit to Project Manager complete list of major products proposed for use; Specification Section, include proprietary product name, manufacturer's name, and installing Subcontractor's name in accordance with requirement of Section 01340 Shop Drawing, Product Data and Samples.

1.08 MANUFACTURER'S INSTRUCTIONS

- A. Perform work in accordance with Manufacturer's instructions.
- B. Do not omit preparatory or installation procedures required by Manufacturer, unless specifically modified by Contractor Documents.
- C. When Contract Documents require Work to comply with Manufacturer's instruction, obtain and distribute such instructions to parties performing work, including copies to Architect and Project Manager. Maintain one set at job site during installation and until acceptance.
- D. Handle, install, connect, clean, condition, and adjust products in strict accord with such instructions and in conformance with specified requirements.
- E. Should job conditions or specified requirements conflict with Manufacturer's instructions, consult Project Manager for further instructions.
- F. Do not proceed with work without clear instructions.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

DELIVERY, STORAGE, AND HANDLING

PART 1. GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide for expeditious transportation and delivery of products to project site undamaged, on schedule to avoid delay of the Work.
- B. Providing equipment and personnel at site to unload and handle products in manner to avoid damage to products.
- C. Provide secure storage and protection for products to be incorporated into the Work, and maintenance and protection for products after installation and until completion of the Work.

1.02 DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with work and conditions at site. Contractor deliveries must not conflict with:
 - 1. Work of other Contractors, or Owner.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. Owner's use of premises.
- C. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
- D. Partial deliveries of component parts of equipment shall be clearly marked to identify equipment, to permit easy accumulation of parts and to facilitate assembly.
- E. Immediately upon delivery, inspect shipment to assure:
 - 1. Product complies with requirements of contract documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are protected and undamaged. Minor damages may be repaired, provided finish items are equivalent in all respects to new work.

1.03 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by Owner, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or over-stressing.
- D. Lift heavy components only at designated lifting points.

1.04 STORAGE

- A. Store products immediately on delivery and protect until installed in the Work. Store in accord with manufacturer's instructions, with seals and labels intact and legible.
- B. Store products subject to damage by elements in substantial weather-tight enclosures.
 - 1. Maintain temperatures with ranges required by manufacturer's instructions.
 - 2. Provide humidity control for sensitive products, as required by manufacturer's instructions.
 - 3. Store unpacked products on shelves, in bins, or in neat piles, accessible for inspection.
- C. Exterior Storage
 - 1. Provide substantial platforms, blocking, or skids to support fabricated products 4" above ground, prevent soiling or staining.
 - 2. Cover products, subject to discoloration or deterioration from exposure to elements, with impervious sheet coverings. Avoid use of non-vented plastic or canvas shelters which could create humidity chambers. Provide adequate ventilation to avoid condensation.
 - 3. Store loose granular materials in solid surfaces such as paved areas or provide plywood or sheet materials to prevent mixing with foreign matter.
 - a. Provide surface drainage to prevent flow or ponding of rainwater.
 - b. Prevent mixing of refuse or chemically injurious materials or liquids.
 - 4. Provide exterior storage area within Contractor Secure area.
- D. Arrange storage in manner to provide easy access for inspection.

1.05 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Surfaces of products exposed to elements are not adversely affected. Any weathering of products, coatings, and finishes is not acceptable under requirements of contract documents.
- B. Mechanical and electrical equipment which requires servicing during long-term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.

1.06 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations, usage or vandalism. Remove when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Provide coverings to protect finished surfaces from damage.
 - 1. Cover projections, wall corners, jambs, sills, and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
 - 2. Protect finished floors and stairs from dirt and damage.
 - a. In areas subject to foot traffic, secure heavy paper, sheet goods, and other

materials in place.

- b. For movement of heavy products, lay planking or similar materials in place.
- c. For storage of product, lay tight wood sheathing in place.

D. Waterproofed and Roofing Surfaces

- 1. Prohibit use of surface for traffic and any kind, or for storage of any products.
- 2. When some activity must take place in order to carry out Contract, obtain recommendations from installer for protection of surface.
 - a. Install recommended protection, remove on completion of that activity.
 - b. Restrict use of adjacent unprotected areas.

1.07 DAMAGED PRODUCTS

- A. Remove damaged or deteriorated materials from the premises. Replace materials which have been damaged.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

SUBSTITUTION AND PRODUCT OPTION

PART 1. GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. Contractor's options in selection of products.
- B. Requests for substitution of products.

1.03 RELATED REQUIREMENTS

- A. Section 00100 - Instruction to Bidders.
- B. Section 00700 and 00800 - General Conditions and Supplementary General Conditions.
- C. Section 01340 - Shop Drawings, Product Data and Samples.

1.04 CONTRACTOR'S OPTIONS

- A. Reference to any equipment, material, article, or patented process by trade name, make or catalog number shall be regarded as establishing a standard of quality and characteristics of products that will be satisfactory and shall not be construed as limiting competition.
- B. Whether or not specifically named equipment or material is followed by the term "equivalent" or "equivalent product" or "approved equal", it shall not exclude other manufacturer's equipment or materials from consideration, unless "NO SUBSTITUTIONS" called out in the specification sections. In this usage, the terms "equivalent" and "equal" or "approved equal" are interchangeable though a product or method considered for substitution may be equivalent to a specified product or method without actually being equal, by virtue of performance, appearance, and meeting specified or implied criteria.
- C. No item will be considered for substitution prior to the bid opening. Consequently, the Bidder shall make its own determination if a substituted item will be equivalent to or better than that specified or indicated in regard to quality, workmanship, finish, space requirements, electrical requirements, performance and guarantees or warranties. Any change in bid and/or contract amount due to any subsequent rejection of product found "not equivalent" will not be considered.
- D. After the Notice to Proceed the Contractor shall submit sufficient data in accordance with this Section to establish equality. The Owner's Representative shall be the sole judge of equality and acceptability.
- E. Acceptance of substitute materials will not relieve the Contractor of the responsibility for any changes in the Contractor's own work or in the work of other trades caused by the substitution. Any additional costs resulting from substitutions are the responsibility of the Contractor.

1.05 SUBSTITUTION PROCEDURE

- A. Requests for substitutions of products will be considered only within 90 calendar days after Notice to Proceed. Subsequent requests will be considered only when judged to be in the best interest of the Owner.
- B. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by subcontractor or

supplier, or when acceptance will require substantial revision of Contract Documents.

- C. Substitute products shall not be ordered or delivered without written acceptance.
- D. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- E. Identify products by specifications section and article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
- F. Attach product data as specified in Section 01340 and the following:
 - 1. Give itemized comparison of proposed substitution with specified product and listing variations.
 - 2. Give quality and performance comparison between proposed substitution and specified product.
 - 3. List availability of maintenance services and replacement materials.
 - 4. State effect of substitution on construction schedule, and changes required in other work or products.
- G. If no requests for substitutions have been received within time frame stated above, it will be assumed that construction will proceed with equipment, materials and products called for in Contract Documents.

If this is subsequently found not to be the case, the Owner reserves the right to demand that unapproved item be removed and replaced with specified item.

1.06 CONTRACTOR REPRESENTATION

- A. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product.
- B. Contractor shall provide same warranty or bonds for substitution as for specified product.
- C. Contractor shall coordinate installation of accepted substitute, making such changes as may be required for work to be complete in all respects, specifically including any related redesign costs.
- D. Contractor waives claims for additional cost caused by substitution which may subsequently become apparent.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

(Except for "Substitution Request Form," 1 page)

SUBSTITUTION REQUEST FORM

TO: _____

PROJECT: _____

We hereby submit for your consideration the following product instead of the specified item for the above project:

Section _____ Page _____ Paragraph _____ Specified Item _____

Proposed Substitution: _____

Attach complete Product description, drawings, photographs, performance and test data, and other information necessary for evaluation.

Will changes be required to building design in order to properly install proposed substitution?
Yes _____ No _____ If Yes, explain: (Add second sheet).

Will the undersigned pay for changes to the building design, including engineering and drawing costs, caused by requested substitution? Yes _____ No _____.

What differences exist between proposed substitution and specified item?

Does substitution affect Drawing dimension? Yes _____ No _____ If Yes, explain: (Add second sheet.)

What affect does substitution have on other trades?

Does Manufacturer's warranty of proposed substitution differ from that specified?
Yes _____ No _____ If Yes, explain: (Add second sheet.)

Will substitution affect Progress Schedule? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Will substitution cost more than specified Product? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Do substitutions affect the Commissioning process and checklists included in Division 17? Yes _____ No _____ If any, attach a marked-up copy of the appropriate Checklist(s) from Division 17 for Owner's approval.

Will maintenance and service parts be locally available for substitution? Yes _____ No _____ If Yes, explain: (Add second sheet.)

Submitted by:

Signature: _____

Firm: _____

Address: _____

City: _____

Date: _____

For Owner's Representative's Use Only:

Accepted () Accepted as Noted ()
Not Accepted () Received Too Late ()

By: _____

Date: _____

Remarks: _____

Phone: _____

STARTING OF SYSTEMS

PART 1. PART GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting, and balancing.

1.03 RELATED SECTIONS

- A. Section 01730 - Operation and Maintenance Data.

1.04 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or for other conditions which may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

1.05 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.
- B. In a classroom environment located at the Project site, demonstrate, and provide instruction for the Project equipment by a manufacturer's representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within nine months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual

with Owner's personnel in detail to explain all aspects of operation and maintenance.

- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

1.06 TESTING, ADJUSTING, AND BALANCING

- A. The independent firm will perform services specified in Section 01410 and 01651.
- B. Reports will be submitted by the independent firm to the Owner indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

PART 2. PART PRODUCTS (NOT USED)

PART 3. PART EXECUTION (NOT USED)

END OF SECTION

SYSTEM COMMISSIONING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of contract, including General and Supplementary Conditions and other Divisions of these Specifications, apply to work of this section.

1.02 DEFINITION

- A. Building Commissioning work is a joint team effort to ensure that all equipment and systems have been completely and properly installed and put into services. The commissioning work will begin only after all systems are 100% complete and functional. The factory start-up of all equipment must have been carried out as well as control system completion and start-up and balancing. The team is made up of representatives from the owner's Engineer and Contractor's organizations.
- B. The Contractor shall schedule system commissioning. The trades represented during the commissioning include sheet metal, piping and fitting, refrigeration, controls and balancing. The lead tradesmen for each trade who actually performed the work is to be present. All trades are to be present as scheduled during the commissioning session. The balancing and control contractors may be released when their portions of work have been completed. The Contractor will submit a schedule of activities for commissioning at least 30 days prior to beginning commissioning. A suggested schedule outline is as follows:
 - 1. Day One (Monday) Owner and Engineer; Mechanical Contractor optional.
 - 2. Day Two (Tuesday) Owner, Engineer, Balancing Contractor, Control Contractor and Mechanical Contractor.
 - 3. Day Three (Wednesday) Owner, Engineer, Balancing Contractor, Control Contractor, Mechanical Contractor including Sheet Metal Contractor and Fitter.
 - 4. Day Four (Thursday) Owner, Engineer, Mechanical Contractor, Sheet Metal Contractor, Fitter and Refrigeration Contractor.
 - 5. Day Five (Friday) Refrigeration Contractor and all parties from day four to complete tasks not completed previously.

1.03 DOCUMENTS

- A. The following documents shall be assembled and bound into the operating and maintenance manuals and delivered according to Section 01730, Maintenance Data.
 - 1. Plumbing sanitization certified.
 - 2. Certificates of Completion from the following Contractors:
 - a. Sheet Metal
 - b. Plumbing and Piping
 - c. Automatic Temperature Control
 - d. Refrigeration
 - e. Fire Protection
 - 3. Balancing report including duct pressure test.
 - 4. Boiler startup certificate, including stack gas test.
 - 5. Hydronic system water analysis report.
 - 6. Steam boiler water analysis report.
 - 7. All operating and maintenance data as described in Section 01730.
- B. Record Drawings will be submitted to District according to Section 01700, Contract

Closeout.

1.04 SCOPE OF WORK

- A. The work included under this section includes a complete and thorough investigation of all systems in order to ensure proper installation and operation of all components and systems. The following systems will be evaluated:
 - 1. Automatic temperature controls.
 - 2. Instrumentation (gauges, thermometers, etc.)
 - 3. Air handling equipment.
 - 4. Air Distribution and exhaust systems.
 - 5. Boilers.
 - 6. Hydronic heating and steam distribution systems.
 - 7. Refrigeration equipment.
 - 8. Fire protection.
 - 9. Labeling, marking and color coding.

PART 2 - PRODUCTS

2.01 VALVE TAGS

- A. Tag all valves with round, numbered, brass tags. Fasten to valve stem with beaded chain. In boiler room and fan room provide a framed, typewritten directory under glass. Directory shall list all valve tag numbers, service of valve, system valve is located in, location of valve and whether valve is normally open or closed. Provide a separate tag sequence for each service. Each service prefix to be abbreviation used for that service (sprinkles, S-1, S-2, etc.; Air, A-1, A-2, etc.)

2.02 EQUIPMENT LABELS

- A. Label all equipment with heat resistant, laminated plastic labels having engraved lettering 1/2-inch high and fastened in place with rivets, screws or pressure sensitive, double sided tape, on back of label. Examples "Pump P-1," "Water Heater No. 1," "Exhaust Fan Ref-2," Air Handling Unit AHU-1," etc.

2.03 PIPING LABELS

- A. Label all service piping with adhesive backed, flexible, vinyl labels, sealed in clear polyester film. Secure labels with directional flow adhesive vinyl banding tape. Labels and tape to comply with ANSI A13.1-1982 for color and size.
- B. Manufacturer: Baker, Emed, Setmark, Seton.

2.04 WATER TREATMENT CHEMICALS

- A. Obtain the services of a professional water treatment firm for testing the steam boiler water and prescribing the treatment chemicals.
- B. Provide a one-year supply of treatment chemicals to maintain the boiler water at or below the following conditions.
 - 1. Neutralized specific conductance.
 - 2. Total alkalinity 600 ppm.
 - 3. Suspended solids 250 ppm.
 - 4. Silica 90 ppm.

The treatment will include a filming amine additive for protection of the condensate piping.

- C. Supply materials are to be based on boiler operation of 10 hours per week at 50% to 100% of capacity with 50% of condensate being returned to system.

PART 3 - EXECUTION

3.01 SYSTEM COMMISSIONING

- A. The following procedures will be verified during the commissioning process. All procedures are to be checked and carried out by the contractor prior to commissioning.

3.02 PRELIMINARY WALK THROUGH

- A. A preliminary walk through to provide a visual check of the various systems to verify that all components are properly installed. The following items will be observed.
- B. Air Distribution:
 - 1. Mounting and support of equipment.
 - 2. Noise, vibration, air and water leaks.
 - 3. Air filtration, presence of dampers, diffusers, grilles, fire dampers and access doors.
 - 4. Presence of thermostats and other adjustable temperature control devices.
 - 5. Presence of smoke sensors and other safety devices.
 - 6. Instrumentation, gauges, thermometers, flow measuring devices.
 - 7. Hoods and exhaust systems.
- C. Plumbing and Piping Systems:
 - 1. Mounting support of equipment.
 - 2. Noise, vibration and leaks.
 - 3. Strainers, valves fixtures and instrumentation and flow measuring or control.
- D. Heating and Cooling Equipment:
 - 1. General installation and service access.
 - 2. Proper cycling.
 - 3. Excessive noise, vibration or leads.
 - 4. Fuel storage, distribution instrumentation and filtration.
 - 5. Presence of safety devices and controls.
- E. Refrigeration Systems:
 - 1. Compressor operation and lubrication.
 - 2. Unit cooler operation.
 - 3. Cooling fluid flow and control.
 - 4. Temperature maintenance and instrumentation.
 - 5. Vibration, excessive noise and leaks.
- F. Fire Protection System:
 - 1. General installation and compliance with approved shop drawings and design drawings.
 - 2. Head locations.
 - 3. Proper functioning of alarms.
 - 4. NFPA certification - Chapter 13.
 - 5. Locate spare heads, wrench and NFPA 13A manual.
- G. Any discrepancies or deficiencies are to be noted for further investigation during the

detailed evaluation.

- H. Verify that all cleaning has been completed.
- I. Verify that all touch-up painting has been completed.

3.03 DETAILED EVALUATION

A. Air distribution systems:

1. Spot checks of approximately 10% of air outlets will be made. Engineer will select outlets and air balancer will demonstrate a reading of that outlet. Where appropriate, the thermostat will be adjusted to simulate full cooling, full heating, hood operation, etc.
2. Air balancer will demonstrate total air flow at each air handler at simulated full cooling and/or maximum fresh air.
3. Air balancer will demonstrate proper air flow at each fume hood, based on previously marked sash positions.
4. Air balancer will demonstrate proper air flow at each process hood.
5. Demonstrate proper room static pressure with respect to adjacent space(s).
6. Motor HP draw will be demonstrated at selected fan motors.
7. Discrepancies between balancing report and spot check results will be dealt with to correct any deficiencies. In the event that significant deficiencies are detected, the entire balancing procedures may be required to be repeated.
8. Any noted drafts or noisy air distribution devices will be evaluated and corrective action taken.
9. Any balancing related problems identified during the Preliminary Walk Through will be addressed and corrected.

B. Heat Transfer and Hydronic Systems:

1. Contractor will demonstrate that strainers have been cleaned by team observation of approximately 5 strainers selected by the Engineer. If significant debris is found in selected strainers, all strainers will be cleaned.
2. Balancer will demonstrate fluid flows at approximately 10% of flow control devices.
3. Selected pumps will have amp draws demonstrated.
4. Fluid temperatures and pressures will be observed at each system, and compared with design values.
5. Glycol concentration will be measured for compliance with design specifications.
6. Any noted deficiencies between the sample evaluations and the balancing report will be dealt with to correct any deficiencies. In the event that significant deficiencies are detected, the entire balancing procedures may be required to be repeated.
7. Any balancing related problems identified during the Preliminary Walk Through will be addressed and corrected.

C. HVAC Control Systems:

1. The Control Contractor will demonstrate the proper function of each control system, and instruct Owner's operating personnel in the proper operation of the systems. The balancing contractor will be present to correct flows and assist in fine tuning system.
2. Control Contractor will demonstrate the proper functioning of the following devices:
 - a. Each thermostat to adequately control heating and cooling.
 - b. Each automatic damper and valve.
 - c. Fresh air and return air dampers.
 - d. Economizer operation.
 - e. Boiler, chiller and pump starting and stopping from program control.

- f. Exhaust fan and air handler start and stop.
 - g. Variable air volume control of VAV air handlers, and tracking of associated return fan.
 - h. Variable air volume control of VAV exhaust fans
 - i. Freeze prevention control.
 - 3. Control Contractor will point out proper labeling of each control device.
 - 4. Control Contractor and Balancing Contractor will coordinate efforts as required until all functions of air distribution and hydronic systems have been fully demonstrated and have been accepted by the District and the Engineer.
- D. Sheet Metal Contractor will demonstrate the following:
- 1. Proper voltage, overload heater size and rotation of each motor driven fan or air handling device.
 - 2. Proper belt tension and drive alignment.
 - 3. Proper clearance and deflection of spring isolation of fans and drives.
 - 4. Proper installation of flexible connections.
 - 5. Sealing of all ductwork per specification.
 - 6. Complete insulation of ductwork and plenums and sound attenuation where required.
 - 7. Completion of any deficiencies pointed out during balancing and control system commissioning.
 - 8. Marking and labeling of each air handling device.
 - 9. Proper shutdown of air handling systems in the event of presence of smoke or products of combustion.
 - 10. Monitor bearings for heat buildup or noise.
 - 11. Demonstrate that heating and cooling coil fins are straight.
 - 12. Demonstrate operation and maintenance of humidification equipment.
 - 13. Sheet Metal Contractor will correct any deficiencies noted during Preliminary Walk Through and Detailed Evaluation.
 - 14. Correct any deficiencies discovered during Preliminary Walk Through and Detailed Investigation.
- E. Each Contractor will explain any special features or intricacies of system operation to the building operating personnel. Items covered should include safety features, hazards to be aware of, precautions to be observed to avoid damage to equipment and any necessary seasonal adjustments which are required. Generally discuss service frequency of devices such as bearings, belt drives, filters, strainers, etc. Show maintenance and operating personnel where additional information can be found in the Operating and Maintenance Manuals.
- F. Plumbing and Piping Contractor will demonstrate and explain the following:
- 1. The cleaning, degreasing and flushing of piping systems.
 - 2. The proper filling of hydronic and chilled water systems.
 - 3. Proper glycol concentration and Ph of hydronic and chilled water systems.
 - 4. Piping and valve marking.
 - 5. Equipment labeling.
 - 6. Demonstrate proper operation of fuel supply system.
 - 7. Demonstrate proper operation of sewage lift pump.
 - 8. Demonstrate proper operation of sump pumps.
 - 9. Tour facility and demonstrate proper installation and operation of plumbing fixtures and piping systems.
 - 10. Demonstrate and explain chemical feed equipment.
 - 11. Demonstrate operation of air compressor, deionized water equipment and other process equipment.
 - 12. Correct any deficiencies discovered during Preliminary Walk through and Detailed

Investigation.

- G. Refrigeration Contractor will instruct equipment operators and demonstrate and explain the following:
1. Proper charging and lubrication of each refrigeration system.
 2. Vibration isolation of equipment.
 3. Proper piping insulation.
 4. Adequate air flow at cold diffusers.
 5. Proper connection of piping.
 6. Proper coolant flow and temperature.
 7. Defrost of cold diffusers.
 8. Maintenance of required temperature in cold boxes.
 9. Proper maintenance and cleaning.
 10. Labeling of equipment and control devices.
 11. Verify proper voltage, rotation and overload heater sizing.
 12. Correct any deficiencies noted during Preliminary Walk Through and Detailed Investigation.

3.04 CERTIFICATION

- A. The following certificate will be signed by each trade listed, indicating that all commissioning work has been completed and that all systems are installed according to the contract documents and manufacturer's installation instructions. The Contractors further certify that all adjustment, lubrication, alignment and startup procedures have been carried out.
- B. Individual Contractor Certifications: (see next page)

CERTIFICATE OF COMPLETION

(Building) _____

(Address) _____

1.	Mechanical Contractor	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
2.	Sheet Metal	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
3.	Plumbing	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
4.	Fitting	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
5.	Balancing	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
6.	Controls	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
7.	Refrigeration	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
8.	Insulation	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)
9.	Fire Protection	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____ (date)

10.	Refrigeration	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____
				(date)
11.	Refrigeration	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____
				(date)
12.	Refrigeration	_____	_____	_____
		(firm)		
	(signature)	_____	(title)	_____
				(date)

The engineer of record has observed the commissioning process and acknowledges that it was carried out according to the contract documents.

_____	_____
(firm)	(date)

(signature)	

The District has observed the commissioning and acknowledges that it was carried out to his satisfaction. The District acknowledges receipt of the following documents and services:

- 1. Operating and Maintenance Manuals
- 2. As-built Drawings
- 3. All Certificates
- 4. Operator Instruction

_____	_____
(organization)	(date)
_____	_____
(signature)	(title)
	(date)

3.05 SYSTEM WARRANTY

- A. The one-year warranty period which begins with beneficial use of the systems is the responsibility of the Contractor. It is the Contractor's responsibility to repair, adjust or replace any defective material and equipment during the warranty period. It is the Owner's responsibility to notify the Contractor of any deficiencies immediately.
- B. During the warranty period, the Owner and building operators should not make any system adjustments, alterations or repairs without first contacting the Contractor. Adjustment of room thermostats may be made at building occupant's discretion without first contacting the Contractor. The Contractor should be contacted as soon as possible so that a permanent repair can be carried out. The MAINTENANCE/ REPAIR REQUEST FORM (see example at the end of this section) should be used to report and document system malfunctions. Requests must be signed by building superintendent.
- C. Emergency repairs and adjustments may be made to prevent system or building components without first contacting the Contractor. Emergency procedures would include items such as repairing leaks, adjusting controls to prevent building freeze-up or other similar adjustments to prevent the building from becoming uninhabitable or unsafe.
- D. Maintenance procedures which are the responsibility of the building Owner during the warranty period include:
 - 1. Replacement of air filters.
 - 2. Replacement or repair of any items which are broken or damaged by building users.
 - 3. Replacement of water softener salt.
 - 4. Replacement (if required) acid neutralization marble.
 - 5. Cleaning of oil separators or grease traps.
- E. Maintenance / Repair Request:
 - 1. The form on the next page is to be used by the Owner and building occupants to document and report any malfunctions in mechanical systems.

MAINTENANCE / REPAIR REQUEST

Reported by _____ Phone (_____) _____ Date _____

Building Superintendent Signature _____

Describe Malfunction _____

Location (i.e. room number/above ceiling/etc.) _____

Describe any Temporary Adjustments or Repairs _____

What is the Urgency of Repair _____

Has this Been Reported by Telephone _____ to Whom _____

Name _____ Firm _____ Phone (____) _____

Date _____ Time _____ Action Promised _____

Repairs Made _____

by _____ Firm _____ Date _____

Contractor's Comments _____

Certification that repairs have been satisfactorily completed

(Building Superintendent) _____ Date _____ Time _____

Send one copy of this form to Contractor. Place one copy of this form in the Building Operating and Maintenance Manual under the appropriate tab.

END OF SECTION

PROJECT CLOSE-OUT

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

- A. Definitions: Close-out is hereby defined to include general requirements near the end of contract time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 28. Time of Close-out is directly related to "Substantial Completion".

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. General and Supplementary General Conditions
- B. Section 01750: Warranty of Work after Final Payment
- C. Section 01750: Certificate of Compliance

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers work substantially complete as defined in contract conditions, he shall submit to the Project Manager:
 - 1. Written notice that work, or designated portion thereof, is substantially complete.
 - 2. List of items to be completed or corrected.
 - 3. Conditional Certificate of Occupancy from governing authorities.
 - 4. Project Records and Contract Record Drawings.
- B. Project Manager will at the mutually agreed time, make inspection to determine completion status.
 - 1. Should Project Manager determine that work is not substantially complete:
 - a. Project Manager will promptly notify Contractor, in writing, giving reasons therefore.
 - b. Contractor will remedy work deficiencies, and send second notice of substantial completion to Project Manager.
 - c. Project Manager will re-inspect work, with his cost and/or expense for such to be the Contractor's responsibility.
 - 2. When Project Manager concurs that work is substantially complete, the Architect will:
 - a. Prepare Certificate of Substantial Completion accompanied with Contractor's list of items to be completed or corrected, as verified and amended by the Project Manager and Architect.
 - b. Submit certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the certificate.

1.04 FINAL INSPECTION

- A. When Contractor considers work complete, he shall submit written certification that:
 - 1. Contract documents have been reviewed.
 - 2. Contractor has inspected work for compliance with contract documents.
 - 3. Work has been completed in accordance with contract documents.

4. Equipment and systems have been tested and operated in presence of Owner's representative and are operational.
 5. Copy of substantial completion punch lists stating that each item has been completed or otherwise resolved for acceptance.
- B. Project Manager will, at the mutually agreed time, inspect the work to verify completion status.
1. Should the Project Manager consider work incomplete or defective:
 - a. Project Manager will promptly notify Contractor in writing of any incomplete or defective work.
 - b. Contractor shall immediately remedy deficiencies, and send written certification to Project Manager that work is complete.
 - c. Project Manager will re-inspect work.
 2. When Project Manager finds the work acceptable under contract documents, he will request Contractor to make closeout submittals.

1.05 RE-INSPECTION FEES

- A. Should Project Manager and or Engineer be required to make more than one substantial and/or final inspection due to Contractor's failure to correct specified deficiencies, the Contractor shall bear all costs made necessary by such additional inspections.

1.06 SUBMITTALS

- A. Record Drawings
1. Prior to Final Completion of the Project, the Contractor and/or Subcontractors under his direction, shall submit records of changes on prints to Project Manager.
 2. Accompany submittal with transmittal letter, to Project Manager, containing:
 - a. Date
 - b. Project title and number
 - c. Contractor's name and address
 - d. Title and number of each record document
 - e. Certification that each document as submitted is complete and accurate.
 - f. Signature of Contractor, or his authorized representative.
 3. Provide drawings and special system drawings on CD in AutoCad format.
- B. Project Record Documents
- C. Operating and Maintenance Data
- D. Building Official's Certificate of Occupancy (MUST BE RECEIVED IN TIME TO ALLOW OCCUPANCY ON DATE REQUIRED IN CONTRACT DOCUMENTS).
- E. Warranty of Work after Final Payment Section 01750
- F. Certificate of Compliance Section 01750
- G. AHERA Exclusion document Section 01750
- H. Department of Revenue Tax Clearance Section 01750

- I. Department of Labor Tax Clearance Section 01750
- J. Department of Labor Notice of Completion of Public Works Section 01750
- K. Certificate of Domestic water disinfection.
- L. Evidence of Payments and Release of Liens
 - 1. Contractor's Affidavit of Payment of Debt and Claims.
 - 2. Contractor's Affidavit of Release of Liens including the following:
 - a. Consent of Contractor's Surety to Final Payment.
 - b. Contractor's Release of Waiver of Liens.
 - c. Separate releases of Waivers of Lien for each subcontractor, supplier, and others with lien rights against Owner's property.
- M. Storm Water Pollution Prevention Plan (SWPPP) and associated documents.
 - 1. A copy of the Notice of Intent (NOI) and the plan review location notice shall be posted in the project office on site.
 - 2. A copy of the SWPPP shall be retained in the project office during construction.
 - 3. All records relating to the SWPPP, as well as the Plan, the NOI, and NOT shall be retained by the Contractor and the Municipality of Anchorage for three years after the NOT is issued.
 - 4. Copies of all SWPPP documents are to be delivered to the Municipality of Anchorage and the Anchorage School District upon completion of the project and before final closeout.
- N. Closeout Checklist Section 01750
 - 1. A closeout checklist is provided for convenience in tracking the necessary documentation and deliverables for project closure. This checklist should be updated and submitted with each closeout deliverable.

1.07 FINAL APPLICATION FOR PAYMENT

- A. Follow procedures specified in General and Special Conditions, and also note miscellaneous prerequisites for final payment noted in this section.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

CLEANING

PART 1. - GENERAL

1.01 DESCRIPTION

- A. Execute cleaning, during progress of the work, and at completion of the work.

1.02 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2. - PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

PART 3. - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the work, the site, and adjacent areas free from accumulations of waste materials, rubbish, and debris, resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris, and rubbish.
- C. Remove waste materials, debris, and rubbish from the site periodically and dispose of.

3.02 DUST CONTROL

- A. Clean interior spaces prior to the start of finishing painting and continue cleaning on an as-needed basis until painting is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.03 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Prior to final completion, or Owner occupancy, the Contractor shall conduct an inspection of sight-exposed interior surfaces and all work areas to verify that the entire work is clean.

END OF SECTION

PROJECT RECORD DOCUMENTS

PART 1. - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Maintenance of record documents and samples.
- B. Submittal of record documents and samples.

1.02 RELATED REQUIREMENTS

- A. Document 00700 - General Conditions.
- B. Section 01300 - Submittals.
- C. Section 01340 - Shop drawings, Product data and Samples.
- D. Section 01700 - Project closeout.
- E. Individual Specifications Sections: Manufacturer's certificates and certificates of inspection.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. In addition to requirements in General Conditions, maintain at the job site for Owner's use one record copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data and samples.
 - 6. Field test records.
 - 7. Inspection certificates.
 - 8. Manufacturer's certificates.
 - 9. Request for Information (RFI)
 - 10. Request for Proposal (RFP)
 - 11. Current Construction Network.
- B. Store record documents and samples in the field office apart from the documents used for construction.
- C. Label and file record documents and samples in accordance with Section number listings in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- D. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.

Keep record documents and samples available for inspection by the Project Manager.

1.04 RECORDING

- A. From the copies of Contract Documents to be furnished by Project Manager, the Contractor and/or Subcontractors shall record on a set of clean, new prints each and every change that is made, at time it is made, in red. This includes any changes that are made in partitions, doors, or otherwise in arrangement of construction of buildings as well as a complete record of exact manner in which electrical and mechanical work, piping, etc., are installed. All Change Orders, RFI's, and Information Bulletins shall be incorporated. Dimensions shall be included where necessary to accurately locate piping and other items that will be concealed underground or in finished building that may later be necessary to service.
- B. Contract Drawings: Legibly mark to record actual construction.
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Field changes of dimensions and detail.
 - 3. Changes made by Change Order and other modifications.
 - 4. Details not on original contract drawings.
 - 5. References to related shop drawings and modifications.
- C. Shop Drawings: Maintain as record documents, legibly annotate appropriate drawings to record changes made after review.
- D. Specifications and Addenda: Legibly mark up each section to record:
 - 1. Changes made by Change Order.
 - 2. Manufacturer, trade name and catalog number of each product actually installed, particularly optional items and substitute items.
 - 3. Changes made by addenda and modifications.
 - 4. Other matters not originally specified.
- E. Label each document "PROJECT RECORD" in printed letters.
- F. Keep record documents current. No progress payments will be made until record documents are verified by the Project Manager as being current.
- G. Do not permanently conceal any work until required information has been recorded.
- H. Methodology:
 - 1. Changes to Work are described by source documents, including, but not limited to, Field Directives (FD), Information Bulletins (IB), Requests for Information (RFI), and Requests for Proposals (RFP), and their attachments. (Reference Section 00700, Article 12.)
 - 2. Project Record drawings are to completely and clearly reflect all Changes to Work by graphically showing actual changes to dimensions, locations, materials, assemblies, and other conditions; by graphically deleting conditions replaced by such changes; and by indicating applicable source document's reference number. Such reference number shall not be the sole representation of Changes to Work shown on Project Record drawings.
 - 3. Where A/E furnishes supplemental drawings, Project Record drawings are to show both the A/E's supplemental drawing reference number and the source document's reference number at the affected location.

1.05 SUBMITTAL

- A. Prior to Final Completion of the Project, the Contractor and/or Subcontractors under his direction, shall submit records of changes on prints to Project Manager.
- B. Accompany submittal with transmittal letter, to Project Manager, containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Title and number of each record document
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of Contractor, or his authorized representative.

PART 2. - PRODUCTS (NOT USED)

PART 3. - EXECUTION (NOT USED)

END OF SECTION

OPERATION AND MAINTENANCE DATA

PART 1. GENERAL

1.01 SECTION INCLUDES

- A. Format and content of manuals.
- B. Instruction of Owner's personnel.
- C. Schedule of submittals.

1.02 RELATED SECTIONS

- A. Section 01300 - Submittals
- B. Section 01400 - Quality Control
- C. Section 01420 - Special Inspections
- D. Section 01410 - Testing Laboratory Services
- E. Section 01600 - Material and Equipment
- F. Section 01700 - Contract Closeout
- G. Section 01750 - Closeout Forms
- H. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.03 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.04 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Electronic: Optical Character Recognition (OCR) formatted pdf document.
- C. Cover: Identify each pdf with a title "OPERATION AND MAINTENANCE INSTRUCTIONS"; identify title of Project; identify subject matter of contents.
- D. Provide bookmarked pdf for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed or typewritten data.
- F. Drawings: Provide with O&M documents.
- G. Contents: Prepare a Table of Contents for each volume, with each Product or System description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions arranged by and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.

1.05 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect/Engineer, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01400.
- F. Warranties and Bonds: Bind in copy of each.

1.06 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. (Provide information for re-ordering custom manufactured Products.)
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual Product specification sections.
- E. Provide a listing in Table of Contents for design data.

1.07 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.
- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified.
- O. Additional Requirements: As specified in individual Product specification sections.
- P. Provide a listing in Table of Contents for design data, with tabbed (fly sheet indexed) and space for insertion of data.

1.08 MANUALS

- A. Operating and Maintenance Manuals: Submit electronic manual for each identified category.
 - 1. Air Balance Report
 - 2. Building Commissioning Reports
 - 3. Materials and Finishes Manual
 - 4. Equipment and Systems Manual
 - 5. Digital and Pneumatic Controls Manual
 - 6. Fire Systems Manual
- B. Warranty and Special Warranty Manual: Submit electronic manuals.

1.09 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. For equipment requiring seasonal operation, provide instructions for all seasons
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.10 SUBMITTALS

- A. Submit copies of preliminary draft or proposed formats and outlines of contents before start of Work. Project Manager will review draft and return copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit advance copy of documents within ten days after acceptance. Include same information within final Operations and Maintenance documents.
- C. Submit draft copy of completed volumes 60 days following acceptance of Project Submittals. Allow 20 days for Architect review and return to Contractor. Provide Contractor resubmittal within 14 days. Allow 14 days for Architect review of resubmittal. Revise content of all document sets as required prior to final submission.
- D. Submit fully approved volumes within 115 days after acceptance of Submittals or 10 days prior to Substantial Completion, whichever occurs first.

PART 2. PRODUCTS (NOT USED)

PART 3. EXECUTION (NOT USED)

END OF SECTION

CLOSEOUT FORMS

PART 1. - GENERAL

- 1.01 The following forms are to be submitted by the Contractor prior to final project closeout.
- 1.02 CERTIFICATION OF SUBSTANTIAL COMPLETION
 - A. Use Anchorage School District Form 101 attached herein.
- 1.03 CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
 - A. Use Anchorage School District Form 102 attached herein.
- 1.04 RELEASE ON CONTRACTS
 - A. Use Anchorage School District Form 103 attached herein.
- 1.05 CONSENT OF SURETY COMPANY TO FINAL PAYMENT
 - A. Use Anchorage School District Form 104 attached herein.
- 1.06 CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE
 - A. Use Anchorage School District Form 105 attached herein.
- 1.07 CERTIFICATE OF COMPLIANCE
 - A. The Contractor shall submit a notarized Certificate of Compliance, contained in this section, with his application for Final Payment.
- 1.08 WARRANTY OF WORK AFTER FINAL PAYMENT
 - A. The Contractor shall furnish to the Owner a notarized Warranty of Work after Final Payment, contained in this section, with his application for Final Payment.
- 1.09 AHERA EXCLUSION DOCUMENT
 - A. The Contractor shall furnish to the Owner a signed AHERA Exclusion Document, contained in this section, with his application for Final Payment.
- 1.10 DEPARTMENT OF LABOR NOTICE OF COMPLETION OF PUBLIC WORKS
 - A. The Contractor shall furnish to the Owner a Notice of Completion of Public Works form approved by the Department of Labor with his application for Final Payment.
- 1.11 DEPARTMENT OF REVENUE TAX CLEARANCE REQUEST FORM
 - A. For projects funded through the Department of Education (debt reimbursement or DEED grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Revenue with his application for Final Payment.
- 1.12 DEPARTMENT OF LABOR TAX CLEARANCE REQUEST FORM
 - A. For projects funded through the Department of Education (debt reimbursement or DEED

grants), the Contractor shall furnish to the Owner a Tax Clearance Request Form approved by the Department of Labor, with his application for Final Payment.

1.13 CLOSEOUT CHECKLIST

- A. The closeout checklist is designed to assist the contractor and project manager in the process of completing the project.

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: _____ Contract Number: _____

Contractor: _____ Contract Date: _____

Architect: _____ Date of Issuance: _____

Owner: ANCHORAGE SCHOOL DISTRICT
1301 Labar Street
Anchorage, Alaska 99515

Project Description:

The work performed under this contract has been reviewed and found to be substantially complete. The date of Substantial Completion is hereby established as: _____

Definition of Date of Substantial Completion:

The date of substantial completion of the project is the date certified by the Owner when the work is substantially complete in accordance with, and defined in the Contract Documents.

A list of items to be completed or corrected, prepared by the Owner and verified and amended by the Architect is appended hereto. The failure to include any items or such list does not alter the responsibility of the Contractor to complete the project in accordance with the Contract Documents.

The Contractor will complete or correct the work on the list of items appended hereto within 30 days from the date of substantial completion.

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as follows: _____

In reliance upon the certification of the Contractor and the Architect, the Owner hereby accepts the project as substantially complete. In accordance with the Contract Documents, the Owner hereby elects to assume occupancy of _____

_____ at _____ a.m./p.m. on _____

Owner: **ANCHORAGE SCHOOL DISTRICT**

By: _____ Title: _____ Date: _____

Architect:

By: _____ Title: _____ Date: _____

Contractor:

By: _____ Title: _____ Date: _____

ASD 101 (01/03)

**CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____
Anchorage School District, and

entered into by the _____
for the construction of _____

The undersigned, pursuant to the General Conditions of the Contract for the construction, _____, hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the District or his property might in any way be held responsible.

EXCEPTIONS:

IN WITNESS WHEREOF, the seal of the undersigned Contractor have been hereunto set this

day of _____

, at _____

By _____

being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

By _____

Subscribed and sworn to before me this _____ day of _____

, at _____

Notary Public in and for _____

My Commission Expires _____

ASDF Form 102

**RELEASE ON CONTRACT
ANCHORAGE SCHOOL DISTRICT**

WHEREAS, by the terms of a contract dated _____ entered into by the Anchorage School District,
and _____ for the construction of _____

_____, it is provided that:
"Neither the final payment nor the remaining retained percentage shall become due until the Contractor shall provide the Owner (1) with a waiver and release of liens, on the forms provided by the Owner, executed by the Contractor..."

NOW THEREFORE, in consideration of the premises and the payment by the Anchorage School District to the undersigned Contractor of the amounts due under the contract and any changes or modifications thereto, to wit, the sum

of \$ _____ Dollars,

(Numbers)

(In Words)

the undersigned Contractor hereby releases and forever discharges the Anchorage School District including its property, particularly that real property known as:

_____ of the Anchorage School District, of and from all manner of debts, dues and sum or sums of money, accounts, claims, and demands whatsoever, in Law and in equity, under or by virtue of said contract, and warrants good title to all material, supplies and equipment installed or incorporated in the project and all work delivered to the premises, together with all improvements and appurtenances constructed thereon by:

_____ to the Anchorage School District free of any claims, liens or encumbrances. Neither the undersigned nor any person, firm or corporation furnishing material or labor for any work covered by this Contract has any right to a lien upon the premises nor improvement thereon, except:

IN WITNESS WHEREOF, the signature of the undersigned Contractor has been hereunto set this

_____ day of _____, 20__, at _____, Alaska.

Signature: _____

Printed Name: _____

I, _____, being first duly sworn, say that I am the agent for and executed the foregoing under authority of said company to do so; that I have read the same, know the contents thereof, and the matters set forth therein are as I truly believe.

Signature: _____

Subscribed and sworn to before me this _____ day of _____, 20__, at _____, Alaska.

Notary Public in and for _____

My Commission Expires: _____.

ASD Form 103

**CONSENT OF SURETY COMPANY
TO FINAL PAYMENT****PROJECT:** _____ **PROJECT NUMBER:** _____**TO:** Anchorage School District **CONTRACT DATE:** _____**CONTRACTOR:** _____

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above:

(Surety Company)

on bond of

(Contractor)

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to **Anchorage School District, Owner** as set forth in said Surety Company's bond. Surety expressly agrees that any and all valid claims of sub-Contractors and all persons supplying labor or materials to the project will be satisfied by Contractor or Surety in a timely manner

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this

day of _____, 20__.

Name of Surety Company

Attest

Signature of Authorized Representative_____
Title

ASD 104

**CONSENT OF SURETY TO REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE
ANCHORAGE SCHOOL DISTRICT**

PROJECT:

PROJECT NUMBER:

TO: Anchorage School District

CONTRACT DATE:

CONTRACTOR:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above,
the:

_____ (Surety Company)

on bond of

_____ (Contractor)

HEREBY APPROVES OF THE REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE to the Contractor
as follows:

The surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the
Surety of any of its obligations to **ANCHORAGE SCHOOL DISTRICT, OWNER**

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this
day of .

Name of Surety Company

Attest

Signature of Authorized Representative

Title

ASDF Form 105

CERTIFICATE OF COMPLIANCE

No final payment shall be made until the Contractor shall file with the Owner, prior to acceptance of the work, a notarized Certification of Compliance in the following form:

The Contractor does hereby certify that all work has been performed and materials supplied in accordance with the Drawings, Specifications and Contract Documents for the above work, and that:

No less than the prevailing rates of wages as ascertained by the governing body of the Contracting Agency has been paid to laborers, workmen and mechanics employed on this work;

There have been no unauthorized substitutions of Subcontractors; nor have any subcontracts been entered into without prior notice having been submitted to the Owner prior to the start of such subcontracted work;

No subcontract was assigned or transferred or performed by any Subcontractor other than the original Subcontractor, without prior notice having been submitted to the Owner together with the names of all Subcontractors;

All claims for material and labor and other paid service performed in connection with these specifications have been paid;

All monies due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund, the State Tax Commission, Hospital Associations and/or others have been paid.

In WITNESS WHEREOF, the undersigned has signed and sealed this instrument this

_____ day of _____, 20__.

(Firm Name)

(Signature)

(Title)

(Attest)

(SEAL IF BIDDER IS A CORPORATION)

As determined necessary, evidence of compliance may be required to be submitted with and made a part of this Certificate of Compliance.

WARRANTY OF WORK

Prior to Final Payment, the Contractor shall furnish to the Owner a Warranty of Work in the following form:

The Contractor does hereby warrant all work and materials to be in full and complete accordance with the Contract Documents and Agreement between Owner and Contractor, and requirements appertaining thereto; that all work and materials are free from any and all defects and imperfections, and fully suitable for the use and purposes for which each and every part is intended. The Contractor also agrees that, should any defect develop or appear which the Project Manager or Owner's Representative finds was Not caused by improper use, the Contractor shall promptly, upon demand, fully correct, substitute and make good any such defective material without any cost to the Owner and will save the Owner harmless against any claim, demand, loss or damage by reason of any breach of this warranty.

The period of this warranty shall commence on the date of Substantial Completion.

The warranty shall continue to be in full force and effect for the period of one (1) year, except for those items for which a longer period of warranty is specifically stated in the Warranties for work in Technical Sections of the Specifications.

Warranties for work stated in Technical Section shall continue in full force and effect for the respective periods expressly stated.

In WITNESS WHERE, the undersigned has signed and sealed this instrument this

_____ day of _____, 20____.

(Firm Name) _____

(Signature) _____

(Title) _____

(Attest) _____

(SEAL IF BIDDER IS A CORPORATION)

AHERA Exclusion Document

Contractor's Verification of Asbestos-Free Construction

Project: _____ **Project Number:** _____

Contractor: _____ **Date:** _____

To: Anchorage School District
Facilities Coordinator,
AHERA LEA Designated Person

To the best of our knowledge, no asbestos-containing building materials were installed in this project.

Attest: _____
Signature of Authorized Representative

Title

Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
www.labor.state.ak.us/lss/lss.htm



- This form must be typed or printed in ink.
- Fill in all blanks or form will be returned for correction (see back).
- Please allow a minimum of 30 working days for processing.

ENTER YOUR FAX # _____
AND LIST YOUR MAILING ADDRESS BELOW

Contractor, company or agency name, address, city, state & ZIP + 4

NOTICE OF COMPLETION OF PUBLIC WORKS

Additional Filing Fee May Be Required

Project Name	Contract #	
Contract awarding agency		
Address		
City	State	ZIP + 4
Contract awarding agency contact person		Phone #
Location and city where work was performed		
DOLWD Project #		
Project Completion Date / /		

Primary contractor (has contract with the public agency)

IF YOU HAVE ALREADY PAID \$5,000 IN FEES FOR THIS PROJECT, OR IF YOU PREVIOUSLY PAID ALL FEES DUE AND DID NOT HAVE ANY INCREASES IN CONTRACT AMOUNTS ENTER "NONE" AND, SKIP TO CERTIFICATION. OTHERWISE, DESCRIBE ADDITIONAL WORK.

Description of additional contract/subcontract work performed	Name of contractor who performed this work	Amount of subcontract
CERTIFICATION: I hereby certify that the above information is correct. Enclosed is the additional filing fee computed at 1% of the total amount of all new contracts on this project, including the contract price of new work performed by the primary contractor not previously reported on the Notice of Work, up to a maximum of \$5,000. I also certify that all contractors who worked on this project complied with prevailing wage requirements as described in AS 36.05.010-.110 and AS 36.10.007-.990.	Total value of additional subcontracts	\$
	Additional value of work performed by primary contractor +	\$
	Amount subject to fee	\$
		Multiply by .01
	Supplemental fee enclosed = ROUND FEES TO NEAREST DOLLAR	\$
For Dept. Use Only		
Amount: _____ Check Number: _____ Cash _____ Received By: _____ Date: _____ Credit Card Confirmation _____ Visa _____ MC _____ Project Name _____ DOLWD Project # _____		
Wage & Hour date-stamped copy of this form will serve as temporary receipt.		
For Dept. Use Only		
T-36 Clearance Approved By _____ Department of Labor and Workforce Development		

D:\tie-temp\Temporary Internet Files\OLKF4\noticecompletionpublicworks.doc

(6/27/03)

How to expedite the processing of your form:

ERRORS THAT CAUSE REJECTION

No fee included or incorrect amount. If total contract amount is less than \$25,000 no filing fee is required. Contract amounts paid to owner/operators with no employees are exempt from the fee. **The maximum total filing fee for any one project is \$5,000.00.**

Missing - Value of work performed by primary contractor.

Missing – The name of each **NEW** subcontractor and the amount of the contract OR the name of existing subcontractors and the amount of any **NEW** work not previously reported on the Notice of Work.

Missing – Notice of Completion of Public Works must be signed by an authorized representative.

FILING INSTRUCTIONS

Additional fees are required for any increase in contract value, unless the maximum fee (\$5,000) has been paid.

If there is not enough space to list all required information on one form, use additional sheets. Please indicate at the top of each sheet "Page 1 of 2", "Page 2 of 2", etc. No other attachments will be accepted.

A Wage and Hour Administration (WH) date-stamped copy of this form will serve as a temporary receipt, while the acceptance of fees is processed. WH will mail or fax the approved copy of this form to the organization provided on the front of this form. Make a copy for your records. This will serve as your notice that the fees paid have been accepted by WH.

For questions call the nearest WH office:

Juneau: (907) 465-4842 Anchorage: (907) 269-4900 Fairbanks: (907) 451-2886

For more forms, see www.labor.state.ak.us/lss/lssforms.htm

Submit the notice and the appropriate filing fee to:

Alaska Department of Labor and Workforce Development
Wage and Hour Administration
3301 Eagle Street, Ste. 301
Anchorage, AK 99503-4149

If no fee is required, you may fax the notice to (907) 269-4915

**Alaska Department of Revenue
TAX CLEARANCE REQUEST FORM**

Applicant's Name: _____

EIN/SSN: _____

Mailing Address: _____

City/State/Zip Code: _____

I hereby authorize the Alaska Department of Revenue to release to

(Name of Department or Agency)

Department's Statute on tax clearance: _____

whose facsimile number or email address is _____.

confirmation that all taxes, penalties and interest due the Department of Revenue have been
paid and that there are no outstanding amounts due.

Signed: _____

Printed Name: _____

Title*: _____

*If tax clearance is being requested on behalf of a corporation/LLC/partnership, must be signed by an
officer/member/partner.

Send completed form by email to the Department of Revenue at DOR.tax.accounting@alaska.gov

DEPARTMENT USE ONLY

- ☐ *The above applicant is current on all taxes, penalties and interest due and
is in good standing with the Alaska Department of Revenue.*
- ☐ *The above applicant is not current on all taxes, penalties and interest due
and is not in good standing with the Alaska Department of Revenue.*

Department of Revenue Representative

Date

*TaxClearanceRequestForm (Rev 2/21)



THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

**Department of Labor and Workforce
Development**

Division of Employment and Training Services
Employment Security Tax

P.O. Box 115509
Juneau, AK 99811-5509
Relay Alaska (in state): (800) 770-8973 or 7.1.1
Relay Alaska (out of state): (800) 770-8255
Toll free: (888) 448-2937
Phone: (907) 465-2787
Fax: (907) 465-2374

Tax Clearance Request Form for Contractors

Date of request: _____

Business name of the contractor a Tax Clearance is being requested for: _____

Business address: _____

Business contact phone number: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for (i.e. beginning and ending date of a subcontract agreement):

Subcontract project name: _____

Name and address of the person this Tax Clearance is to be returned to: _____

Comments or additional information: _____

For agency use only:

- ☐ Tax Clearance is granted
☐ Tax Clearance is not granted (please have employer contact the department)
☐ No account on file, liability unknown (please have employer contact the department)
☐ Employer has stated no employees, Tax Clearance not required.

Agency representative signature: _____ Date: _____

Agency representative title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. labor.alaska@ov/estax

Rev. 8/2018

Project Title: _____

Project Number: _____

PROJECT CLOSEOUT CHECKLIST	Number Required	Number & Date Delivered
Inspection Documents		
Substantial Completion Inspection Documents	1	
Substantial Completion Punch List	1	
Final Inspection Documents	1	
Final Inspection Punch List	1	
Certificate of Substantial Completion (ASD Form 101)	1	
Contractor Submittals		
As-built drawings to Engineer of Record (Section 01700)	1	
All project record documents (Section 01720)	1	
Maintenance and Operations Manuals – Electronic version – OCR pdf (Section 01730)	1	
Warranty and Special Warranty Manuals (Section 01730)	4	
Certificate of Domestic Water Disinfection (Section 01700)	2	
Warranty of Work (Section 01750)	1	
Certificate of Compliance (Section 01750)	1	
Building Officials Certificate of Mechanical and Electrical Inspection	3	
Building Official's Certificate of Occupancy	3	
Building Official's Certificate of Completion	3	
AHERA Response Action Report (RAR)	1	
AHERA Exclusion Document (Section 00630)	1	
Return school keys to lock shop	1	
Lock Shop Release Form (signed)	1	

Project Title: _____

Project Number: _____

PROJECT CLOSEOUT CHECKLIST	Number Required	Number & Date Delivered
Contractor's Affidavit of Payment of Debts and Claims (ASD Form 102)	1	
Consent of Surety Company to Final Payment (ASD Form 104)	1	
Release on Contract (ASD Form 103)	1	
Consent of Surety to Reduction in/or Partial Release of Retainage (ASD Form 105)	1	
Engineered As-built drawings and special system drawings on reproducible CD's (not zipped)	1	
Engineered As-built drawings and special system drawings on bond/blacklines	2	
Spare Parts deliverables	1	
Copy of Warranty for all items with Extended Warranty	1	
Notice of Completion of Public Works (Section 00630) (Approved DOL Clearance Form)	1	
Dept. of Revenue Tax Clearance Form (Section 00630) (Approved DOR Tax Clearance Form)	1	
Dept. of Labor Tax Clearance Form (Section 00630) (Approved DOL Tax Clearance Form)	1	
Apprenticeship Program - Purchasing release for final payment (projects over \$100,000)		
Final Application and Certificate for Payment (ASD Form 100A-C)	1	
Base Access Pass(s) returned to Visitor Control Center	NA	

Project Manager Signature

Date

END OF SECTION

UTILITY LOCATION REQUIREMENTS

PART 1. - GENERAL

1.01 DESCRIPTION

- A. Upon receipt of written notification from any of public agencies or utilities that Contractor has caused damage to any facility, equipment or installation of agency, and Contractor failed to request a utility locate service from said utility at least two (2) normal business days prior to damage, or if locate services was properly requested, that damage was not approximately caused by error in locate service, Owner will withhold from forthcoming or accrued Contract payment, including advances, a sum sufficient to protect agency or utility from loss. Public agencies or utilities that provide notice of facility damage under this paragraph are:

Anchorage Water and Wastewater Utility
Alaska Communications Systems
Alaska Fiber Star
Alaska Native Medical Center
Alaska Railroad Corporation
Alyeska Cable / TelAlaska
Anchorage School District
Aircraft Service International Group
AT&T Alascom
Chugach Electric Association, Inc.
Department of Transportation Street Lights, State of Alaska
Enstar Natural Gas Company
Flint Hills Resources/Williams Alaska Pipeline
GCI Cable
Matanuska Electric Association
Matanuska Telephone Association
Municipality of Anchorage/Department of Public Works
Municipal Light & Power Utility
Tesoro Alaska Inc.

- B. Upon receipt of release of claim by notifying utility or upon judgment of a court having jurisdiction in matter and having established that Contractor is liable for a lesser amount or is not liable for damage, Owner will release excess funds to Contractor. Funds withheld pursuant to this provision shall not bear interest. Upon receipt of satisfactory evidence against Contractor in court of competent jurisdiction within sixty (60) days after discovery of damage, Owner shall release funds withheld pursuant to this provision.

1.02 PROTECTION OF UTILITIES

- A. Any pipes or other utilities encountered in excavation shall be shored up and cared for by Contractor as to leave them in a proper working condition until such times as Owner determines what shall be done with them.
- B. Any utilities mislocated or inadequately located by appropriate utility company which are damaged by Contractor shall not constitute reimbursement or time extensions to Contractor from Owner for repair(s) of work that Contractor performs.
- C. Contractor shall coordinate his work to cooperate with original utility service installed.

PART 2. - PRODUCTS (NOT USED)

PART 3. - EXECUTION (NOT USED)

END OF SECTION

HAZARDOUS MATERIALS ASSESSMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Hazardous Materials Assessment for the proposed construction is included with these Contract Documents.

1.02 USE OF INFORMATION

- A. The Hazardous Materials Assessment is provided for the Contractor's information and use in the planning and performance of work in areas containing hazardous or potentially hazardous materials as outlined in Paragraph 1.03.
 - 1. The information provided in the Hazardous Materials Assessment is based on samples collected in various locations of the building. Thus, the Owner and/or its Representative cannot guarantee or warrant that actual conditions encountered might not vary from the information presented in these reports.
 - 2. The data reported in the Hazardous Materials Assessment is accurate to the best of the Owner's and its Representative's knowledge. The requirements contained in these specifications and in the relevant state and federal regulations pertaining to the performance of work in areas containing hazardous or potentially hazardous materials provide guidance for the contractor for performance of work in these areas. The Owner and its Representative disclaim all responsibility for the Contractor's erroneous conclusions regarding the information presented in these reports; the requirements contained in these specifications; and the requirements of applicable state and federal regulations pertaining to performance of work in these areas.
 - 3. The Contractor shall be responsible for obtaining additional information if Contractor deems it necessary to carry out the work.
- B. It is highly recommended that the contractor visit the site to acquaint themselves with existing conditions.
- C. Attached Hazardous Materials Assessment

1.03 HAZARDOUS MATERIALS NOTIFICATION:

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

HAZARDOUS MATERIALS ASSESSMENT

ALPENGLOW ELEMENTARY SCHOOL ROOF REPLACEMENT

EAGLE RIVER, ALASKA

Surveyed
April 15, 2025
July 08-09, 2025
August 26, 2025

Report Date
September 10, 2025

EHS-ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 BUSINESS BLVD., SUITE 208
EAGLE RIVER, ALASKA 99577-7701

**HAZARDOUS MATERIALS ASSESSMENT
ALPENGLOW ELEMENTARY SCHOOL ROOF REPLACEMENT**

EAGLE RIVER, ALASKA

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APPENDICES

Appendix A	Asbestos Bulk Field Survey Data Sheets and Lab Reports
Appendix B	Bulk Product PCB Field Survey Data Sheets and Lab Reports
Appendix C	Lead Analyzer Test Results
Appendix D	Drawings of Sample Locations

**HAZARDOUS MATERIALS ASSESSMENT
ALPENGLOW ELEMENTARY SCHOOL ROOF REPLACEMENT**

EAGLE RIVER, ALASKA

OVERVIEW

Alpenglow Elementary School, located in Eagle River, Alaska, was surveyed for the presence of asbestos-containing materials (ACM), and other potentially hazardous materials as a part of the design services for the Alpenglow Elementary School Roof Replacement Project at the school for the Anchorage School District. The survey also provided a “good faith” inspection for hazardous materials that may be disturbed during the construction. The proposed work includes the disturbance, demolition, removal and disposal of lead-containing paints and/or lead-containing materials that is incidental to the renovation and remodeling project. Mr. John H. Lamont and Mr. Fisher G. Gandel of EHS-Alaska, Inc. (EHS-Alaska) conducted the inspections in April, July, and August 2025. This assessment includes data from previous inspections of the facility.

A. GENERALIZED REQUIREMENTS FOR HAZARDOUS MATERIALS

Potentially hazardous materials have been identified at Alpenglow Elementary School not all of which will be affected by the proposed renovations. Those materials include asbestos, lead, polychlorinated biphenyls (PCBs), mercury, and radioactive materials. Not all materials were tested for potentially hazardous components, other potentially hazardous materials, including those exterior to the building, such as contamination from underground fuel tanks may be present, but are not part of this report.

Buildings or portions of buildings that were constructed prior to 1978 which are residences, or contain day care facilities, kindergarten classes or other activities frequently visited by children under 6 years of age are classified as *child occupied facilities* for work that disturbs or removes lead-based paints. This building is not classified as a *child occupied facility* and therefore the requirements of 40 CFR 745 are not applicable. See lead testing results and location drawings for additional information.

Only the materials that will be directly affected by this project are required to be removed. The quantities and types of materials are incorporated into the design documents for this renovation. The removal and disposal of potentially hazardous materials are highly regulated, and it is anticipated that removal and disposal of asbestos, lead and chemical hazards will be conducted by a subcontractor to the general contractor who is qualified for such removal. It is anticipated that the general contractor and other trades will be able to conduct their work using engineering controls and work practices to control worker exposure and to keep airborne contaminants out of occupied areas of the building. Refer to Section 01 35 45, Airborne Contaminant Control.

Settled and concealed dusts in areas not subject to routine cleaning are present throughout the building, including the roof, and inside and on top of architectural, mechanical, electrical, and structural elements, and those dusts are assumed to contain regulated air contaminants. This should not be read to imply that there is an existing hazard to building occupants (normal occupants of the building as opposed to construction workers working in the affected areas). However, depending on the specific work items involved and on the means and methods employed when working in the affected areas, construction workers could be exposed to regulated air contaminants from those dusts in excess of the OSHA Permissible Exposure Limits (PELs).

The settled and concealed dusts were examined by an EPA Certified Building Inspector but were not sampled. The inspector determined that the dusts are not “asbestos debris” from an asbestos-containing building material (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts are unlikely to contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM). Reference 40 CFR 763.83.

“Awareness training” (typically 2 hours) and possibly respiratory protection will be required for all Contractor Personnel who will be disturbing the dusts. The extent of the training and protective measures will depend upon the airborne concentrations measured during air monitoring of the contractors work force, which depends on the means and methods employed to control the dusts. The air monitoring may be discontinued following a “negative exposure assessment” showing that worker exposures are below the OSHA permissible exposure limits for the type of work and means and methods employed. Previous air monitoring from similar jobs with similar conditions may be used as historical data to establish a “negative exposure assessment”.

B. BUILDING DESCRIPTION

Alpenglow Elementary School was originally constructed in 1995 and has had no additions and only minor renovations.

The building has a concrete slab-on-grade foundation with a combination of concrete masonry units (CMU) and structural steel supporting the structure. Interior partitions were typically of metal framed or CMU construction. The exterior of the building had a split-face CMU with areas of “Stucco”, and the roof was an inverted roof membrane assembly.

Floors were finished with carpet, sheet vinyl, and vinyl floor tiles, with a rubberized “raised dot” floor found in select vestibules and a poured rubber floor in the Gymnasium. Walls were typically finished with gypsum wall board or were painted CMU. Ceilings typically had lay-in ceiling tiles with some areas of gypsum wall board.

Heating was provided by two boilers in the boiler room feeding perimeter baseboard heat along with various unit heaters. Ventilation was provided by four main air handling units feeding both variable air volume and constant air volume ductwork with reheat coils, plus various exhaust systems.

C. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

The following tables include sampling from different previous projects, and may include data from different portions of the building. Material Codes, like FT-1 for Floor Tile style 1, will change between the various projects, and readers should refer to the material descriptions rather than the Material Codes.

The most recent survey included sampling of suspect ACM materials that had not been sampled in prior asbestos surveys, or samples of materials where previous sampling had been inconsistent. Refer to the AHERA asbestos management plan available for review in the Anchorage School District offices for information on previous sampling which is not included in this report. Additional testing of materials pertinent to the project, including asbestos and lead was conducted and is included in this report.

The samples were analyzed for the presence of asbestos using polarized light microscopy (PLM), analysis, as recommended by EPA, to determine the composition of suspected ACMs (EPA method 600/M4-82-020). Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and OSHA criteria. Samples analyzed to have less than 10% asbestos were “point-counted” by the laboratory for more accuracy. Samples listed as having a “Trace by Point Count” had asbestos fibers found in the material, but the fibers were not present at the counting grids. Table 1 in Part D below contains a summary list of the asbestos bulk samples and the applicable results.

The Bulk Asbestos samples were analyzed for asbestos content by Eurofins Built Environment Testing / iATL Mt. Laurel, New Jersey, a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

EPA regulations under 40 CFR 763 require the use of PLM to determine whether or not a material contains asbestos. While PLM analysis does a good job for most materials, it does have some limitations. Fibers may be undetectable if their small size prevents visibility under a standard optical microscope, or if they are bound in an organic matrix to the point that the fibers are obscured. At the discretion of the building inspector and the client, some types of samples may be analyzed or re-analyzed by what is called Transmission Electron Microscopy for Non-Friable Organically Bound (TEM NOB) materials. TEM NOB is the definitive method for determining if asbestos is present, but TEM NOB use is not required by the EPA. TEM NOB analysis was not done for this project.

Field survey data sheets and laboratory reports of the bulk samples are included in Appendix A. Drawings showing sample locations are included as Appendix D.

2. Lead-Containing Materials

Nearly all surfaces in the building were coated with paint and most surfaces had been repainted. EHS-Alaska had previously tested paint throughout the affected areas of the building using a Heuresis Pb200i X-Ray Fluorescence (XRF) lead paint analyzer (Serial # 1770 with software version 4.0-21) EHS-Alaska had previously tested paint throughout the affected areas of the building using an XLp300A X-Ray Fluorescence (XRF) lead paint analyzer (Serial # 81530 with software version 5.2F). The lead testing conducted was not a Lead-Based Paint Inspection or Screening as defined by HUD or EPA regulations, but was done to test surfaces that may be representative of those likely to be affected by this project. If surfaces and materials other than those tested are identified, the Contractor shall test and treat appropriately. Refer to the Lead Analyzer Test Results Table in Appendix C that identifies the surfaces tested, and the results. All surfaces affected by this project may not have been tested and therefore additional sampling may be required to refute the presence of lead-based paints in child occupied facilities regulated by 40 CFR 745. The Lead Test Locations are shown in Appendix D.

EPA and HUD have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm^2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at $1.0 \text{ mg}/\text{cm}^2$ or greater), negative (less than $1.0 \text{ mg}/\text{cm}^2$ of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). Tests that were invalid due to operator error are shown as void tests.

A Performance Characteristic Sheet (PCS) for the Heuresis Pb200i and NITON XLp300A is available upon request. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the $1.0 \text{ mg}/\text{cm}^2$ threshold.

3. Testing of Paints and Sealants for PCB's

Representative paint and sealant samples were collected from throughout the school and analyzed for total PCBs. Samples of paint were collected by scraping the paint down to bare substrate, or by cutting out a portion of the sealants. Samples were analyzed for total PCBs by Alliance Technical Group, LLC, 3600 Fremont Avenue N. Seattle, Washington. Results of the total PCB analysis for each sample was used to determine if the dried paint or sealants are considered PCB bulk product waste. Field Survey Data Sheets and Lab results are included in Appendix B. Drawings showing sample locations is provided in Appendix D.

D. SURVEY RESULTS**1. Asbestos-Containing Materials**

The following tables include sampling from different previous projects, and may include data from different portions of the building. Material Codes, like FT-1 for Floor Tile style 1, will change between the various projects, and readers should refer to the material descriptions rather than the Material Codes.

The following Table 1A lists the samples taken in August 2025 on the roof of the school, and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix D for sample locations.

TABLE 1A

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
APES-2508-A01	Grey sticky pliable putty	Roof "C"; NW most overflow drain; between membrane and RD bowl. Photo 06 JHL	None detected
APES-2508-A02	Grey sticky pliable putty	Roof "C"; SE most overflow drain; between membrane and RD bowl. Photo 09 JHL	None detected
APES-2508-A03	Grey sticky pliable putty	Roof "D"; S middle overflow drain; between membrane and RD bowl. Photo 21 JHL	None detected
APES-2508-A04	Dark grey sealant	Roof "C"; at 4" VTR, sealant between membrane and VTR. Photo 12 JHL	None detected
APES-2508-A05	Dark grey sealant	Roof "D"; at 4" VTR, sealant between membrane and VTR. Photo 17 JHL	None detected
APES-2508-A06	Grey sticky pliable putty	Roof "B"; S middle overflow drain; between membrane and RD bowl. Photo 22 JHL	None detected
APES-2508-A07	Dark grey sealant	Roof "B"; at 4" VTR, sealant between membrane and VTR. Photo 26 JHL	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

The following Table 1B lists the samples taken in July 2025 inside the school, and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix D for sample locations.

TABLE 1B

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
APES-2507-A01	White Skim Coat	Art/Health Rm 101, north wall above ceiling tiles. P121	None detected
APES-2507-A02	Black Sink Undercoating	Kinder 107, beneath sink along western wall. P180	None detected

HAZARDOUS MATERIALS ASSESSMENT

Division 2

Section 02 26 00

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
APES-2507-A03	Wall Box Speaker Housing Sticky Black Coating	Room 112, from clock speaker along south wall. P216	None detected
APES-2507-A04	Wall Box Speaker Housing Sticky Black Coating	IMC 201, from west wall-mounted speaker box near main double door. P325	None detected
APES-2507-A05	Off-White Tectum Ceiling Board, White/Grey Fireproofing	Eastern wing hallway, very end, from north wall. P473	None detected both layers
APES-2507-A06	Brick Red Firestop, White Skim Coat	Room 222, from above ceiling directly in front of the door. P478	None detected both layers
APES-2507-A07	CB-2: Grey 4" Vinyl Cove Base, Tan Mastic, White Joint/Leveling Compound	Classroom 219, east wall, where the tile becomes carpet. P12F	None detected all layers
APES-2507-A08	CPT-3 Yellow Mastic, Black Mastic	Classroom 219, east wall, where the tile becomes carpet. P12F	None detected
APES-2507-A09	Brick Red Firestop, White Skim Coat	Classroom 213, from above ceiling directly in front of doorway. P487	None detected both layers
APES-2507-A10	Off-White Tectum Ceiling Board, White/Grey Fireproofing, White Joint Compound	East wing hall, in front of classroom 213, from south wall. P490	None detected all layers
APES-2507-A11	Circular Ceiling Speaker Housing Sticky Black Coating	West wing hall, in front of room 118, from circular speaker embedded in tectum. P603	None detected
APES-2507-A12	Off-White Tectum Ceiling Board	West wing hall, in front of room 118, from behind the speaker housing's edge. P604	None detected
APES-2507-A13	Brick Red Firestop	Classroom 119, from above ceiling directly in front of door. P610	None detected
APES-2507-A14	White Sealant	West hallway, from north window next to the vestibule and where the hallway jogs south, between window frame and curb. P621	None detected
APES-2507-A15	Beige/Green Rubber Mat Flooring (black underside)	301E, gym loading area/ storage, from removable rubber mat floor lain on concrete. P19F	None detected
APES-2507-A16	Brick Red Firestop	301A, from west wall above doorways at CMU penetration. P636	None detected
APES-2507-A17	Pliable Grey Duct Seam Sealant	Fan Room 604, from where west AHU (3) connects to rectangular metal ducts. P713	2% Chrysotile
APES-2507-A18	Pliable Grey Duct Seam Sealant	Fan Room 604, from AHU (1) between rect. metal duct seams. P719	2% Chrysotile
APES-2507-A19	Pliable Grey Duct Seam Sealant	Fan Room 604, from rect. metal duct seams along west wall closer to northwest corner. P722	2% Chrysotile
APES-2507-A20	Wall Box Speaker Housing Sticky Black Coating	Kitchen 302, south wall, from wall speaker box next to clock. P732	None detected

The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).

The following Table 1C lists the samples taken in April 2025 on the roof of the school, and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix D for sample locations.

TABLE 1C

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
APES-2504-A01	Off-white spray-applied fireproofing	Center East Roof: Spray-applied fireproofing at roof access hatch, on metal deck. Photo 90	None detected
APES-2504-A02	White sealant; with clear sealant	Center East Roof: Sealant at glazing and metal window frame. Photo 104	None detected
APES-2504-A03	Off-white sealant at corrugated metal roof	Center East Roof: Seam sealant between corrugated metal roof panels. Photo 107	None detected
APES-2504-A04	Black sealant at glazing	Center East Roof: Sealant at glazing and metal window frame. Photo 110	None detected
APES-2504-A05	Black sealant at rubber membrane	Center East Roof: Sealant at rubber membrane lap. Photo 114	None detected
APES-2504-A06	Clear sealant at metal flashing	Center West Roof: Sealant at metal flashing on parapet wall. Photo 141	None detected
APES-2504-A07	Off-white sealant at corrugated metal roof	Center West Roof: Seam sealant between corrugated metal roof panels. Photo 142	None detected
APES-2504-A08	White sealant; with clear sealant	Center West Roof: Sealant at glazing and metal window frame. Photo 143	None detected Both layers
APES-2504-A09	Off-white sealant at corrugated metal roof	Center West Roof: Seam sealant between corrugated metal roof panels. Photo 145	None detected
APES-2504-A10	Light grey sealant at metal flashing	Center West Roof: Sealant between metal flashing and concrete masonry unit block wall. Photo 149	None detected
APES-2504-A11	Black sealant at rubber membrane	West Roof: Sealant at rubber membrane lap. Photo 157	None detected
APES-2504-A12	Light grey sealant at metal flashing	West Roof: Sealant between metal flashings on parapet wall. Photo 158	None detected
APES-2504-A13	Light grey sealant at metal flashing	Center West Roof: Sealant on metal exhaust hood. Photo 160	None detected
APES-2504-A14	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 161	None detected
APES-2504-A15	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 164	None detected
APES-2504-A16	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 165	None detected

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SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
APES-2504-A17	Black sealant at rubber membrane	North Roof: Sealant between rubber membrane and metal boiler stack. Photo 204	None detected
APES-2504-A18	Off-white sealant at corrugated metal roof	Center East Roof: Seam sealant between corrugated metal roof panels. Photo 37	None detected
APES-2504-A19	Light grey sealant at rubber membrane	Center West Roof: Sealant patch on rubber membrane at roof access hatch curb. Photo 123	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

The following Table 1D lists the samples taken in June 2020 in the front office area and various exterior vestibules and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix D for sample locations.

TABLE 1D

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0620-A01	Black sink undercoating	East side of Nurse 102 on bottom of stainless steel sink – Photo B54	None detected
AG0620-A02	(LCT1) Lay-in ceiling tile, 2' x 4' white with false 2' x 2' appearance and beveled edges with 1/8" wide x 1/2" long random fissures and 1/16" holes	South side of Nurse 102 – Photo C07	None detected
AG0620-A03	Black sticky coating on inside of clock-speaker housing	West side of Nurse 102 – Photo B55	None detected
AG0620-A04	(SV1) Sheet vinyl, off-white, beige, blue and pink pebbles, self-covng; with tan mastic	East side of Nurse 102 – Photo C08	None detected Two layers
AG0620-A05	Greyish-white crumbly spray-on fireproofing	Above ceiling on wire support on south side of Room 100A – Photo C09	None detected
AG0620-A06	(FT1) Floor tile, 12" x 12" off-white with black sand pattern; with black mastic	Nook at northwest side of Room 100D – Photo C10	None detected Two layers
AG0620-A07	(CB1) Cove base, 4" light grey; with off-white mastic; with white joint compound	Nook at northwest side of Room 100D – Photo C11	None detected Three layers
AG0620-A08	Crispy tan carpet mastic	East entrance to Room 106 – Photo C12	None detected
AG0620-A09	(FT1) Floor tile, 12" x 12" off-white with black sand pattern; with black mastic; with tan mastic; with clear mastic	East entrance to Room 106 – Photo C13	None detected Four layers
AG0620-A10	White gypsum wall board; with white joint compound	Above ceiling on northeast side of Room 100C – Photo B56	None detected Two layers
AG0620-A11	White joint compound	Above ceiling on north side of Room 100C – Photo B57	None detected

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SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0620-A12	Greyish-white crumbly spray-on fireproofing	Bottom of beam above ceiling on north side of Room 100C – Photo B59	None detected
AG0620-A13	(SV1) Sheet vinyl, off-white, beige, blue and pink pebbles, self-coving; with tan mastic; with off-white leveling compound	South side of Room 106A – Photo C14	None detected Three layers
AG0620-A14	Black sticky coating on inside of clock-speaker housing	Southeast side of Room 104 – Photo C15	None detected
AG0620-A15	Black sink undercoating	West side of Room 104 on bottom of stainless steel sink – Photo C16	None detected
AG0620-A16	White gypsum wall board	Above ceiling at southeast side of partial wall in Room 106 – Photo B60	None detected
AG0620-A17	Greyish-white crumbly spray-on fireproofing	Bottom of beam above ceiling on south side of Room 106 – Photo B62	None detected
AG0620-A18	(LCT1) Lay-in ceiling tile, 2' x 4' white with false 2' x 2' appearance and beveled edges with 1/8" wide x 1/2" long random fissures and 1/16" holes	Southeast side of partial wall in Room 106 – Photo B63	None detected
AG0620-A19	White joint compound; with pink joint compound	Above ceiling at northeast side of partial wall in Room 106 – Photo B64	None detected Two layers
AG0620-A20	White duct tape	Above ceiling on round metal duct on north side of Room 106 – Photo B65	None detected
AG0620-A21	(FT2) Floor tile, 12" x 12" "grey pebbles" pattern in hallways; with tan sticky mastic	At south entrance of Room 202 – Photo C17	None detected Two layers
AG0620-A22	(FT3) Floor tile, 12" x 12" "black pebbles" pattern in hallways; with tan sticky mastic	At south entrance of Room 202 – Photo C18	None detected Two layers
AG0620-A23	(FT4) Floor tile, 12" x 12" "white pebbles" pattern in hallways; with tan sticky mastic; with white leveling compound	At north entrance of Room 207 – Photo C20	None detected Three layers
AG0620-A24	(CB1) Cove base, 4" light grey; with tan mastic; with white cementitious	At south entrance of Room 206 – Photo C21	None detected Three layers
AG0620-A25	Greyish-white crumbly spray-on fireproofing; with yellow fiberglass	At damaged area of fireproofing on concrete masonry unit wall next to roof access ladder at northwest corner of Room 206 – Photo C22	None detected Two layers
AG0620-A26	(LCT2) Lay-in ceiling tile, 2' x 2' white with beveled edges with 3/16" jagged oblong fissures and 1/32" to 1/8" holes	North side of Room 204 – Photo B66	None detected
AG0620-A27	White joint compound; with yellow joint compound	North side of Room 204 – Photo B67	None detected Three layers

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0620-A28	Greyish-white crumbly spray-on fireproofing	Bottom of beam on the north side of Room 204 – Photo B68	None detected
AG0620-A29	White duct tape	On large round metal duct on south side of Computer Room 200 – Photo B69	None detected
AG0620-A30	Crispy tan carpet mastic	East side of Computer Room 200 – Photo B70	None detected
AG0620-A31	Exterior “Stucco”: off-white “finish” coat; with grey “scratch” coat	Outside of Vestibule 1701 – Photo C37	None detected Two layers
AG0620-A32	Exterior “Stucco”: off-white “finish” coat; with grey “scratch” coat	Outside Room 302 – Photo C47	None detected Two layers
AG0620-A33	(RF1) Rubber floor, black 1” “raised dot” pattern; with grey mastic; with grey leveling compound	North side of Vestibule 1101 – Photo C53	None detected Three layers
AG0620-A34	(RF2) Rubber floor, green 1” “raised dot” pattern; with grey mastic	North side of Vestibule 1101 – Photo C53	None detected Two layers
AG0620-A35	(RF2) Rubber floor, green 1” “raised dot” pattern	Entrance to Room 229 – Photo B71	None detected Two layers
AG0620-A36	(RF1) Rubber floor, black 1” “raised dot” pattern; with grey mastic	Entrance to Room 229 – Photo B72	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

Table 1E includes samples taken in September 2016 in the Boiler Room and the results of the laboratory analysis. Note, some of these materials may have been removed by the previous project, but are included here to illustrate similar materials from the eras of construction. Asbestos field survey data sheets and laboratory reports are included in Appendix A. Refer to Appendix D for sample locations.

TABLE 1E

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0916-A01	Spray-on fireproofing, grey cellulose with white granules	At damaged area of fireproofing on metal deck at northeast corner of Boiler Room – Photo 33	None detected
AG0916-A02	White joint compound	At damaged area of wall near exit door on northeast side of Boiler Room – Photo 34	None detected
AG0916-A03	Dark red fire-stop penetration sealant	At gas supply line penetration thru north wall of Boiler Room – Photo 35	None detected
AG0916-A04	White joint compound	At damaged area of wall near door to Fan Room on northwest side of Boiler Room – Photo 36	None detected
AG0916-A05	Off-white/orange/pink gypsum wall board	At damaged area of wall near water pipe for exterior hose bib at northeast corner of Boiler Room – Photo 37	None detected

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SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0916-A06	Spray-on fireproofing, grey cellulose with white granules	On side of beam at pipe hangar support on west side of Boiler Room – Photo 38	None detected
AG0916-A07	Spray-on fireproofing, grey cellulose with white granules	On bottom of beam at pipe hangar support near center of Boiler Room – Photo 39	None detected
AG0916-A08	White gypsum wall board	At top of wall above door to Fan Room on northwest side of Boiler Room – Photo 40	None detected
AG0916-A09	Off-white rope gasket for burner mounting plate to boiler	Boiler #2: between burner mounting plate and boiler assembly – Photo 47	None detected
AG0916-A10	Off-white rope gasket for burner assembly to burner mounting plate	Boiler #2: between burner assembly and burner mounting plate – Photo 48	None detected
AG0916-A11	Off-white observation port gasket	Boiler #2: on glass observation port on front of boiler – Photo 49	None detected
AG0916-A12	Black gasket on lower water cutoff float valve	Boiler #1: on lower water cutoff valve – Photo 50	None detected
AG0916-A13	Green thread sealant on gas piping	Boiler #2: on gas supply piping – Photo 52	None detected
AG0916-A14	Off-white rope gasket for boiler vent stack	Boiler #1: on rear of boiler at beginning of vent stack – Photo 53	90% Chrysotile
AG0916-A15	Off-white rope gasket for boiler vent stack	On boiler vent stack at “blank” branch on southwestern side of Boiler Room – Photo 57	60% Chrysotile
AG0916-A16	Grey graphitic flange gasket on GHS strainer	On ø6” strainer on GHS piping at southeast corner of Boiler Room – Photo 59	None detected
AG0916-A17	Off-white observation port gasket	Boiler #1: on glass observation port on front of boiler – Photo 62	None detected
AG0916-A18	Off-white rope gasket for burner mounting plate to boiler	Boiler #1: between burner mounting plate and boiler assembly – Photo 60	None detected
AG0916-A19	Off-white rope gasket for burner assembly to burner mounting plate	Boiler #1: between burner assembly and burner mounting plate – Photo 61	None detected
AG0916-A20	White insulation blanket	Boiler #1: under sheet metal exterior of boiler on intermediate section – Photo 64	None detected
AG0916-A21	Dark red sealant for boiler intermediate section	Boiler #2: under sheet metal exterior of boiler on intermediate section seam – Photo 65	None detected
AG0916-A22	Off-white rope gasket	Boiler #2: under sheet metal exterior of boiler loose on intermediate sections – Photo 66	None detected
AG0916-A23	Dark red sealant for boiler intermediate section	Boiler #2: under sheet metal exterior of boiler on intermediate section seam – Photo 68	None detected
AG0916-A24	Off-white rope gasket for boiler intermediate section	Boiler #2: under sheet metal exterior of boiler on intermediate section seam – Photo 69	None detected

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
AG0916-A25	Black rubbery sealant	At roofing membrane to boiler vent stack seam on roof – Photo 78	None detected
AG0916-A26	White gypsum wall board	On boiler vent stack chase in Fan Room – Photo 70	None detected
AG0916-A27	White joint compound	On boiler vent stack chase in Fan Room – Photo 71	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

The following materials have been found to contain asbestos in this or previous surveys or were assumed to contain asbestos.

1. Ventilation system duct sealants (found in pliable grey sealants at rectangular metal duct seams on air handling units in the mezzanine mechanical room, confirmed asbestos-containing).
2. Flange gaskets and valve packing (assumed asbestos-containing).

The following materials have been found to contain asbestos in previous surveys, or were assumed to contain asbestos in previous reports, but have been removed from the school in their entirety according to project documents and field observations and are not discussed further in this report:

1. Boiler stack rope gaskets (confirmed asbestos).
 - a. Removed during the 2016 Boiler Replacement Project.
2. Concealed boiler gaskets and sealants (assumed asbestos).
 - a. Removed during the 2016 Boiler Replacement Project.

The following materials have been found to be asbestos-free in this or previous surveys but is not to be considered a complete list of asbestos-free materials.

- Spray-on fireproofing.
- All sizes and patterns of lay-in ceiling tiles.
- Gypsum board systems (walls, ceilings, soffits, etc.) and associated joint compound.
- Black flooring mastic.

The effects of the above asbestos-containing materials on the proposed renovation are discussed below.

Duct Sealants

Grey sealants at joints of the medium or high pressure ductwork and between the fan unit sections and at the joints of the site-built fan plenums was found to contain asbestos. The sealants were in good condition and were not friable and are unlikely to be disturbed by this project.

Flange Gaskets and Valve Packing

Due to their age, gaskets and valve packing on mechanical equipment throughout the building, but mostly in mechanical and fan rooms, are assumed to be asbestos-containing. These materials are difficult to sample without disassembly of equipment and consequently limited sampling was performed. These materials were in good condition but may become friable during removal for replacement. The gaskets and packings will be partially removed by this project.

2. Asbestos in Dusts

The settled and concealed dusts were examined by an EPA Certified Building Inspector but no samples for asbestos in dusts were authorized for this project. Based on their visual inspection and experience from similar buildings, the inspector determined that the typical settled and concealed dusts are not

“asbestos debris” from an asbestos-containing building material (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts are unlikely to contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM).

3. Lead-Containing Materials

Lead-Testing

EHS-Alaska previously tested paint and other materials throughout the affected areas of the building using a Heuresis XRF lead paint analyzer. Previous lead testing in the building used a NITON XRF lead paint analyzer. Lead in paints tested varied from a trace amount to 0.28 mg/cm². Lead in other materials tested varied from a trace amount to 0.2 mg/cm². Refer to the Lead Analyzer Test Results Table in Appendix C that identifies the surfaces tested, and the results. The Lead Test Locations are shown in the Drawings in Appendix D.

Paints

There were varying lead contents found in the paints, based on what surfaces they are on, with most surfaces containing little lead (but are still classified as lead-containing materials by OSHA).

Lead based paints (paint containing more than 1.0 mg/cm² of lead) were not identified in the project and are not anticipated to be present at this school based on an original construction date of 1995. Lead was detected at very low levels in most of the painted floor, wall and ceiling surfaces. XRF testing is not able to “prove” that “no” lead exists in the paint. Low levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead. However, these paints may not present a hazard to occupants or workers performing renovation or demolition if lead-safe work practices are followed.

Ceramic Wall Tile and Glazing

Relatively low concentrations of lead were found in the glazing of ceramic plumbing fixtures. The concentrations of lead in ceramic glazing compounds should not be compared to lead-based paint criteria, as the glazing is inherently less likely to cause lead to be present in dusts or on surfaces, where it can be ingested. Lead in ceramic tile glazing may not pose a hazard to occupants, or workers performing renovation or demolition if lead-safe work practices are followed. All ceramic fixtures in the facility should be assumed to contain lead.

Plastic Components

Relatively low concentrations of lead were found in plastic components, such as “Formica” plastic laminate panels. The concentrations of lead in plastic compounds should not be compared to lead-based paint criteria. Lead in plastic compounds may have surface deterioration and if not cleaned regularly, lead may be present in dusts or on surfaces, where it can be ingested. Lead in plastic compounds may not pose a hazard to occupants, or workers performing renovation or demolition if good work practices are followed.

Metallic Lead Items

Metallic lead items assumed to be present in the building include drain piping with poured lead at drain bowls and bell and spigot joints, and metallic lead items may also be present in other areas of the school such as in solder for copper piping or lead-acid batteries. If removed during renovation or demolition they should be recycled or disposed of as hazardous waste.

Lead Dusts

The settled and concealed dusts were examined but no samples for lead in dusts were authorized for this project. Based on their visual inspection and similar sampling from similar buildings, the inspector also determined that the dusts are likely to have measurable concentrations of lead in the dusts.

4. PCB-Containing Materials

Light Ballasts

Older fluorescent lights typically have PCB-containing ballasts. PCB-containing ballasts in fluorescent lights were banned in 1978, but manufacturers were allowed to use up existing stocks, and lights may have been reused from other facilities. The survey included examination of what were considered to be representative light fixtures, but not all fixtures were able to be accessed. All lights shall be inspected during removal or relocation. Unless ballasts were marked “No PCBs,” they must be assumed to contain PCBs and must be disposed of as a hazardous waste when removed for disposal. Only fluorescent light fixtures marked “No PCBs” were found in the building. The fluorescent light fixtures are unlikely to be disturbed by this project.

Older HID lights may have PCB-containing ballasts, but based on the original 1995 construction date are not likely to be present at this school. Due to height restrictions and sealed ballast enclosures, the HID fixtures were not able to be accessed. All HID lights shall be inspected during removal or relocation. If ballasts are not marked “No PCBs,” we suggest contacting the manufacturer of the lights to determine if the ballasts contain PCB’s, or assume that they contain PCB’s and be disposed of as a hazardous waste. The HID light fixtures are unlikely to be disturbed by this project.

Bulk Products

Representative paint and sealant samples were collected from throughout the school.

The following Table 2A summarizes the PCB Bulk samples taken July 2025 by EHS-Alaska, Inc. Field Survey Data Sheets and Lab results are included in Appendix B. Refer to Appendix D for sample locations.

TABLE 2A

SAMPLE NUMBER	MATERIAL	LOCATION	TOTAL PCB CONCENTRATION
SH0814-P01	Off-white paint on gypsum wall board	Classroom 101: Entry at cubbies, above suspended ceiling system on gypsum wall board. Photo 120	None detected
SH0814-P02	White/grey sealant at window frame	Corridor A-32: Taken between metal window trim and metal sill plate at exterior window. Photo 621	None detected
SH0814-P03	Off-white paint on CMU wall	P.E. Office B-07: Above suspended ceiling system on painted portion of CMU, southwest corner. Photo 635	None detected
SH0814-P04	Red “firestop” at penetration through CMU wall	P.E. Office B-07: Above suspended ceiling system at penetration through CMU wall, loose “firestop” at conduit penetration. Photo 636	None detected
Total PCB’s listed herein includes the sum of all congeners of PCB’s. Refer to the laboratory reports for the concentrations of the various congeners of PCBs found in the samples.			

All four samples had no detectable concentrations of PCB’s. Refer to Regulatory Constraints discussion below for more information.

5. Mercury-Containing Materials

Fluorescent Lamps

Fluorescent lamps use mercury to excite the phosphor crystals that coat the inside of the lamp. These lamps contain from 15 to 48 milligrams of mercury depending on their age and manufacturer. The fluorescent lamps are unlikely to be disturbed by this project.

High Intensity Discharge Lamps

High Intensity Discharge (HID) lamps use mercury and sodium vapors in the lamp, and also typically have lead-containing solders at the bases. These lamps contain varying amounts of mercury depending on their age and manufacturer. The HID light fixtures are unlikely to be disturbed by this project.

Rubber Flooring

3M Brand Tartan Track or Gym Flooring and other rubber floors installed during the 1970s up through the mid 1980's often contained a mercury catalyst. The rubber flooring was typically installed in gymnasiums, locker rooms, gym storage, restrooms and on tracks. The mercury content of this flooring varies, as does the amount of degradation that has occurred over time and therefore the extent to which mercury can be leached from the flooring. The rubber flooring located in the Gym was not tested as part of this project and is assumed to contain enough mercury to be classified as a hazardous waste. The rubber flooring is not anticipated to require disturbance by this project.

All mercury-containing items being removed by this project are required to be disposed of as hazardous waste or recycled.

6. Other Hazardous Materials**Self-Illuminating Exit Signs**

Several radioactive, self-illuminating exit signs and smoke detectors were found in the renovation area. If any radioactive items are removed by this project, they are required to be disposed of as hazardous waste or recycled.

Soil Contamination

The scope of work for EHS-Alaska, Inc. did not include investigation of soils for petroleum or other contaminations.

Refrigerants

Refrigerators were identified in the building that may contain ozone depleting refrigerants. Air conditioning units may also be present. Ozone depleting substances (ODS) are regulated by the EPA and must be removed by certified technicians prior to equipment disposal.

Heat Transfer Fluids

The existing heating system is assumed to contain heat transfer fluids, including glycol or other boiler treatment chemicals. Any heat transfer fluids removed from the heating system shall be recovered and properly disposed of or recycled. The heating system is unlikely to be disturbed by this project.

Universal Wastes

Various forms of Universal Wastes were found in the school, including lead-acid, nickel-cadmium or lithium ion batteries and LED light fixtures, which are classified as Universal Wastes. If any Universal Wastes are removed or generated by this project, they are required to be disposed of as hazardous waste or recycled.

E. REGULATORY CONSTRAINTS**1. Asbestos-Containing Materials**

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos-containing materials.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61), Subpart M under the National Emission Standards for Hazardous Air Pollutants (NESHAP), established procedures for handling ACM during asbestos removal and waste disposal. Alpenglow Elementary School will fall under the EPA's Asbestos Hazard Emergency Response Act (AHERA) law regulating asbestos in schools, and clearance sampling will be required where interior asbestos-containing materials are removed. It is recommended that clearance sampling which complies with the EPA's Asbestos Hazard Emergency Response Act (AHERA) protocol be required following removal of asbestos-containing materials to document that the asbestos has been properly removed.

The EPA regulations require an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos-containing materials.

The disposal of asbestos waste is regulated by the EPA, the Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

2. Dusts with Asbestos

Settled and concealed dusts above ceilings, and at other areas that are not routinely cleaned (such as inside ducts and at roofs, etc.) are assumed to have measurable concentrations of asbestos. Based on sampling of similar settled and concealed dusts at similar buildings, those dusts are assumed to contain less than 1 percent asbestos. Normal settled and concealed dusts are distinct and treated differently from debris resulting from damaged asbestos-containing materials.

Background levels of asbestos in dusts for a particular location will depend on many factors, including whether or not asbestos occurs naturally in soils in the area.

Likely sources of asbestos in dusts include natural occurrences of asbestos

The types of asbestos found in settled and concealed dusts often contain actinolite, anthophyllite and tremolite forms of asbestos which are not commonly found in bulk samples taken of materials from buildings. Those forms of asbestos may come from natural occurrences of asbestos in an outside source, such as rock or ore deposits, which appear to be common in the Anchorage area.

Because the type of disturbance, concentration of asbestos in the dusts, cohesiveness of the dusts and room sizes will change, the airborne asbestos levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of asbestos in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard". All dusts will likely be required to be removed from the areas where asbestos-containing materials are being removed (abatement areas) in order to achieve clearances. The dusts in the other areas are to be controlled so as to limit worker exposures and prevent contamination of occupied areas of the building.

There is no established correlation between settled or adhered dusts with measurable concentrations of asbestos and airborne concentrations. The definition in the OSHA regulations of asbestos-containing materials as those materials that contain 1 percent or more asbestos by weight, apply to cohesive materials and not to dusts. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

3. Lead-Containing Materials

The EPA Standard 40 CFR 745, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, defines lead-based paint hazards and regulates lead based paint activities in target housing and child-occupied facilities. The requirements of this regulation include training certification, pre-work notifications, work practice standards and record keeping. Areas typically classified as child occupied facilities may include but are not limited to: day care facilities, preschools, kindergarten classrooms, restrooms, multipurpose rooms, cafeterias, gyms, libraries and other areas routinely used by children under 6 years of age. Training requirements for Firms (Contractors) and Renovators (Workers) became effective on April 22, 2010, and the revised dust-lead clearance levels became effective on January 13, 2025. The building is not classified as a child occupied facility; therefore, the requirements of 40 CFR 745 do not apply.

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed. Experience has shown that some paints in most buildings will contain low concentrations of lead and disturbance of those paints are still regulated under the OSHA lead standard, 29 CFR 1926.62. Low levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead, and OSHA regulations apply anytime measurable amounts of lead are present in paints.

Settled and concealed dust above ceilings, and in other areas that are not routinely cleaned are assumed to have measurable concentrations of lead. Background levels of lead in dusts for a particular location will depend on many factors, including whether or not engines utilizing leaded gasoline were run in or near a building, and upon the age of the building, and thus the age of the dusts. Because the type of disturbance, quantity of lead dusts, cohesiveness of the dusts and room sizes will change, the airborne lead levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of lead in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard".

There is no established correlation between settled or adhered lead dust concentrations and airborne concentrations. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint or other heavy metals be tested using the TCLP test to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes are required to be followed during the renovation or demolition of portions of this building.

If the TCLP tests done on the waste stream(s) that are produced by the contractor are found to contain more than 5.0 mg/liter or 5.0 ppm of lead, they are classified as hazardous wastes, then those waste stream(s) will have to be packaged for shipping and disposal in accordance with hazardous waste and transportation regulations. Because there are no hazardous waste landfills in Alaska, this report assumes that any hazardous waste disposal will take place in Seattle or elsewhere in the Pacific Northwest.

4. PCB-Containing Materials

The EPA has promulgated regulations (40 CFR Part 761) that cover the proper handling and disposal of PCB-containing materials. PCB-containing "Bulk Product" materials (defined by the EPA as Bulk Products that contain more than 50 ppm PCBs) were not found by this survey. All four samples taken had no detectable concentrations of PCB's.

Materials containing PCB's at any detectable concentrations are not allowed to be disposed of in Alaska Landfills under current Alaska Department of Conservation landfill permits, which exceeds the EPA regulations for disposal of PCB Bulk Products. The EPA regulates liquid PCBs differently from non-liquid materials, such as PCB Bulk Products.

Bulk product wastes that contain PCBs at 50 ppm or greater are regulated by the EPA, however, even at concentrations higher than 50 ppm, PCB bulk products are allowed by the EPA to be disposed of at municipal or non-municipal, non-hazardous waste landfill because the PCBs in bulk products are not likely to leach out of the solid material. The following citation of 40 CFR 761.62(b) illustrates this: *"Disposal in solid waste landfills. (1) Any person may dispose of the following PCB bulk product waste in a facility permitted, licensed, or registered by a State as a municipal or non-municipal non-hazardous waste landfill: (i) Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; Galbestos; non-liquid building demolition debris; or non-liquid PCB bulk product waste from the shredding of automobiles or household appliances from which PCB small capacitors have been removed (shredder fluff). (ii) Other PCB bulk product waste, sampled in accordance with the protocols set out in subpart R of this part, that leaches PCBs at <10 µg/L of water measured using a procedure used to simulate leachate generation."*

On October 24, 2012, EPA issued a Memorandum on the proposed reinterpretation of the PCB bulk product waste definition noting that building materials or substrates that are *"coated or serviced with PCB Bulk Product Waste (e.g., caulk, paint, mastic, sealants) at the time of designation of disposal are to be managed as a PCB bulk product waste, even if the PCBs have migrated from the overlying bulk product waste into the substrate, provided there is no other source of PCB contamination on or in the substrate."*

The EPA's 2012 Memorandum included the requirement that the potentially contaminated substrate (such as concrete or bricks or wood) be identified as PCB bulk product waste, prior to the material being designated as wastes, otherwise those materials would be classified as PCB remediation wastes, and be required to be disposed of at an EPA permitted hazardous waste landfill. If PCBs have migrated out of the PCB bulk product into the soils, then any soils containing more than 1 ppm, those soils are considered PCB remediation wastes and are subject to the cleanup and disposal requirements of 40 CFR 761.61.

None of the samples of suspect PCB Bulk Products taken by this project contained had detectable concentrations of PCB's. The Anchorage Regional Landfill Policy prohibits the disposal of PCB waste with detectable concentrations of PCB's. State of Alaska regulation 18 AAC 60.025 prohibits the disposal of materials that contain a hazardous substance in concentrations that exceed the applicable soil cleanup levels in 18 AAC 75.341 (Table B1 or B2) in unlined landfills. This regulation is being applied to lead-based paint and PCB-containing building materials (PCB Bulk Products) in renovation or demolition projects by the Alaska Department of Environmental Conservation (ADEC). Although we believe this is outside of the intent of the regulation, there are currently no options for disposal of PCB Bulk Product waste with measurable concentrations of PCB's in Alaska.

Since EPA regulations would allow disposal of PCB bulk products at essentially unlimited concentrations, it is recommended that additional coordination with local landfills be conducted to determine if at least the PCB bulk product wastes that contain less than 50 ppm be allowed to be disposed of at a local landfill, since they likely already have millions of tons of wastes that are likely classified as PCB bulk product wastes disposed of in their landfills.

Under 40 CFR 761.62 any person disposing of PCB bulk product waste in a waste management facility that does not have a commercial PCB storage or disposal approval must provide written notice to the facility a minimum of 15 days in advance of the first shipment. Content of the required notice is specified in 40 CFR 761.62.

Workers who remove or handle PCB-containing or PCB-contaminated materials or who transport or dispose of PCB wastes must be trained and certified in hazardous waste operations and emergency response (HAZWOPER) as required by 29 CFR 1910.120 and the State of Alaska Department of Labor (8 AAC 61). The Department of Transportation under 49 CFR Parts 100-199 regulates the marking, packaging, handling and transportation of hazardous materials. All federal, state and local standards regulating PCBs and PCB waste must be followed during this project.

5. Mercury-Containing Materials

Thermostats and mercury-containing lamps are classified by the EPA as Universal Wastes. The EPA encourages that all Universal Wastes be recycled in accordance with 40 CFR 273. Mercury and mercury-containing products are considered hazardous waste if TCLP testing of the waste for mercury confirms the mercury content to be greater than the EPA criteria of 0.2 mg/l.

6. Other Hazardous Materials

Refrigerants

Refrigerators were present in the front office area and kitchen that are not expected to be disturbed by this project. Typically, refrigeration systems with ODS shall be maintained in order to prevent discharge of ODS. Systems that are to be removed, or dismantled shall have refrigerants containing ODS recovered and disposed of or recycled in accordance with 40 CFR 82.

Chemical Hazards

The EPA has promulgated regulations (40 CFR Parts 260 to 299 amongst others) that cover the proper handling and disposal of waste chemicals, including listed wastes, which are ignitable, corrosive, reactive, toxic, or an acute hazardous waste or wastes that exhibit the characteristics of toxicity. All construction workers who are required to remove or handle chemical hazards or to transport or dispose of chemical wastes shall be trained and certified as required by the U.S. Department of Labor (29 CFR 1910.120) and the State of Alaska Department of Labor (8 AAC 61). Transportation of chemical hazards are regulated by Department of Transportation regulations under 49 CFR Parts 171 to 178 amongst others.

Waste heat transfer fluids (such as used heating/cooling system glycol or other circulating heating/cooling fluids) are a potentially hazardous waste and are required to be TCLP tested prior to disposal to determine if the fluids are classified as hazardous or non-hazardous waste per the EPA's RCRA regulations governing hazardous wastes. According to a study performed by the University of Northern Iowa, standard TCLP analysis using ICP SW 6010 testing procedures commonly report levels of Arsenic and Selenium over regulatory thresholds due to interferences in the matrix. That report concluded that additional analysis should be performed to refute the presence of Arsenic or Selenium over the regulatory levels by either mass spectrometry using method SW 6020, or by graphite furnace using method SW 7060. Some heat transfer fluids may also contain potentially hazardous additives that modify the properties of the fluids for use in a particular system. It is recommended that the contractor consult with the persons responsible for maintaining the system to determine if any additives that may be potentially hazardous were used in the system to further determine disposal requirements.

Radioactive Materials

Self-luminous products that contain Tritium, Krypton-85, or Promethium-147 are considered radioactive. There are special disposal requirements for products that contain Tritium, Krypton-85, or Promethium-147 that are generally licensed. Data from the Nuclear Regulatory Commission (NRC) indicates that most all Tritium powered exit signs are generally licensed and therefore must be disposed of at a licensed disposal facility or returned to the manufacturer/distributor for disposal. Licensed radioactive products are regulated by Nuclear Regulatory Commission standard 10 CFR 20 and 10 CFR 32. When removed during renovation, the detectors should be returned to the owner for reuse or returned to the manufacturer for disposal or recycling. There are no licensed disposal facilities for radioactive wastes in Alaska.

Universal Wastes

The EPA encourages that all Universal Wastes be recycled in accordance with 40 CFR 273. All Universal Wastes which are the responsibility of the Contractor to remove or dispose of, shall be recycled or disposed of as a hazardous waste.

F. RECOMMENDATIONS**1. Asbestos-Containing Materials**

The asbestos-containing materials identified in this building are not anticipated to be disturbed by this project.

2. Dusts with Asbestos

Dusts with measurable concentrations of asbestos are assumed to be present, but are not classified as asbestos-containing materials, or as debris from asbestos-containing materials. Workers disturbing dusts are required to have hazard communication training in accordance with OSHA regulations, but are not required to receive 40 hours of training, which is required for asbestos workers. The contractor will need to choose means and methods to control worker exposures to airborne contaminants. At least an initial exposure assessment or data from previous air monitoring is needed to show that worker exposures are maintained below the OSHA permissible exposure limits (PELs). Refer to Section 01 35 45 Airborne Contaminant Control.

3. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead, including disturbance of paints with low concentrations of lead.

Worker exposure to lead may be able to be controlled below the OSHA permissible exposure limit if proper engineering controls and procedures are used during renovation. Lead is a potentially hazardous waste, and the EPA requires that all wastes that contains lead be tested to determine if they must be treated as hazardous waste. A TCLP test of the waste stream(s) produced by the Contractor's means and methods are required to be performed to determine if those wastes will be classified as hazardous or non-hazardous. Refer to Section 01 35 45 Airborne Contaminant Control and Section 02 81 20 Hazardous Materials Summary of Requirements.

4. PCB-Containing Materials

No PCB-containing materials were identified in the project areas. If any PCB-containing ballasts or bulk products are discovered, and they are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. Refer to Section 02 81 00 Hazardous Materials – Summary of Requirements.

5. Mercury-Containing Materials

If any mercury-containing materials are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. If mercury-containing lamps and thermostats are handled and disposed of in accordance with the Universal Waste Regulations, no TCLP test is required. If the Contractor chooses to perform a TCLP test of fluorescent lamps, the test shall be conducted in accordance with the requirements of ANSI/NEMA Standard Procedure for Fluorescent Lamp Sample Preparation and Toxicity Characteristic Leaching Procedure, C78.LL 1256-2003 or latest version.

6. Other Hazardous Materials

If any radioactive materials are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. Refer to Section 02 81 00 Hazardous Materials – Summary of Requirements.

If any ODS are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. Refer to Section 02 81 00 Hazardous Materials – Summary of Requirements.

If any heat transfer fluids are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. Refer to Section 02 81 00 Hazardous Materials – Summary of Requirements.

Universal Wastes that are the responsibility of the Contractor, shall be recycled or disposed of as a hazardous waste. Refer to Section 02 81 00 Hazardous Materials – Summary of Requirements.

G. LIMITATIONS

The conclusions and recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted environmental consulting and engineering standards and practices and are subject to the following inherent limitations:

1. Accuracy of Information

The laboratory reports utilized in this assessment were provided by the accredited laboratories cited in this report. Although the conclusions, opinions, and recommendations are based in part on such information, our services did not include the verification of accuracy or authenticity of such reports. Should such information provided be found to be inaccurate or unreliable, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

2. Site Conditions

This limited survey did not include investigation of the entire site and may not be valid outside the survey area. The intent of this survey was to identify common hazardous materials that may be disturbed during routine maintenance or renovations. This survey is not intended to be utilized as the sole design document for abatement. This survey was conducted while the site was occupied. All inspections were performed with furniture, equipment and/or stored items in place. The scope of work for this survey did not include identification of all potentially hazardous materials that may be present at this site, and was limited to the scope of work agreed upon with our client. Although a concerted effort was made to identify those common hazardous materials likely to be affected by this project, some hazardous materials may have been hidden by furniture, equipment or stored items and may not have been identified. The survey investigated representative materials and items, such as lights and mechanical components. Variations may occur between materials and items that appear to be the same, but are actually of different construction or materials. Other asbestos-containing or potentially hazardous materials may be present in the facilities that were concealed by structural members, walls, ceilings or floor coverings, or in materials where testing was not conducted.

3. Changing Regulatory Constraints

The regulations concerning hazardous materials are constantly changing, including the interpretations of the regulations by the local and national regulating agencies. Should the regulations or their interpretation be changed from our current understanding, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

APPENDIX A

Asbestos Bulk Sample Field Survey Data Sheets and Laboratory Reports

EHS-Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577-7701

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EHS ALASKA
INCORPORATED

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA				Page <u>1</u> of <u>1</u>
FIELD COLLECTION DATE: <u>08-26-2025</u>		JOB #: <u>8205-01</u>		BULK ANALYSIS REQUESTED: (circle) <u>PLM</u> / TEM BULK / LEAD TCLP / LEAD PPM
PROJECT NAME: <u>ALPENGLOW ES RE-ROOF</u>			MATERIAL TYPE: (circle) <u>ASBESTOS</u>	TOTAL LEAD QUANTITIES: <u>7</u>
FACILITY: <u>ALPENGLOW ES ROOF</u>		DISPOSAL: <u>NORMAL</u>	TURNAROUND: <u>RUSH</u>	
SPECIAL INSTRUCTIONS: <u>E-mail j.lamont@ehs-alaska.com RESULTS</u>				
COLLECTED BY (signature) <u>[Signature]</u> PRINTED NAME <u>JOHN H LAMONT</u> T-30203-41066/2022001 CERT# <u>IN-PERSON</u> SHIPPING METHOD COURIER (signature) <u>[Signature]</u> DATE/TIME <u>08/26/2025</u>		SELECTED LABORATORY <u>JHicklin</u> SAMPLES ACCEPTED BY <u>[Signature]</u> DATE/TIME <u>8-26-25</u> ANALYST'S SIGNATURE <u>[Signature]</u> DATE <u>8-26-25</u>		
COMMENTS: SEE SAMPLE LOCATES FOR A MORE DETAILED DESCRIPTION OF SAMPLE EXACT LOCATION. LAB! RETURN A SIGNED COPY TO EHS-ALASKA ABBREVIATIONS: MTL = METAL M = SIMILAR TO ABOVE @ = AT 70 Asbestos				
SAMPLE ID	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS	
1. APES-2508-A01	GREY PLIABLE PUTTY	ROOF "L": NORTHWEST MOST OVERFLOW DRAIN; STICKY, PLIABLE PUTTY @ MTL CLAMP RINGS. PHOTO 06	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
2. APES-2508-A02	"	ROOF "C": SOUTHEAST MOST ROOF DRAIN; STICKY, PLIABLE PUTTY @ MTL CLAMP RINGS. PHOTO 09	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
3. APES-2508-A03	"	ROOF "D": SOUTH MIDDLE ROOF DRAIN; STICKY, PLIABLE PUTTY @ MTL CLAMP RINGS. PHOTO 21	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
4. APES-2508-A04	DARK GREY SEALANT	ROOF "C": 4" VTR; SEALANT @ VTR & MEMBRANE COLLAR (MTL) PHOTO 12	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
5. APES-2508-A05	"	ROOF "D": 4" VTR; SEALANT @ VTR & MEMBRANE COLLAR (MTL) PHOTO 17	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
6. APES-2508-A06	GREY PLIABLE PUTTY	ROOF "B": SOUTH MIDDLE OVERFLOW DRAIN; STICKY, PLIABLE PUTTY @ MTL CLAMP RINGS. PHOTO 22	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
7. APES-2508-A07	DARK GREY SEALANT	ROOF "B": 4" VTR; SEALANT @ VTR & MEMBRANE COLLAR (MTL) PHOTO 26	None Detected	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				
8. N/A	N/A	N/A	N/A	
MATL. CONDITION: (GOOD FAIR POOR) WATER: DAMAGE POTENTIAL: (LO, MED, HI) AIR: VIBRATION: CONTACT:				

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS-04/08

Alaska Asbestos Laboratory

Bulk Asbestos Analysis by PLM

3633 Parsons Avenue Anchorage, Alaska 99508

Client: EHS Alaska, Inc. Client Project #: 8205-01 AAL Project #: 25-0936
 11901 Business Blvd. Suite 208 Collection Date: 08/16/25 Report #: B25-0936
 Eagle River, AK 99577 Collected By: Client Report Date: 08/26/25

Project Name/Location: Alpenglow ES Re-Roof

Date Received: 08/16/25 Date Analyzed: 08/16/25 Sample Count: 7 Report By: J. Hicklin
 Received By: J. Hicklin Analysis By: J. Hicklin Layer Count: 7 TAT: Rush

Client ID #			AAL ID #		Location: Roof "C": Northwest Most Overflow Drain; @ MTL Clamp Rings				Layer 1 of 1	
APES-2508-A01			B25-1446		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Putty			Total Non-Fibrous		99.90		Cellulose	0.10	Non-Detect	
Comment: Grey Pliable Putty					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect	

Client ID #			AAL ID #		Location: Roof "C": Southeast Most Roof Drain; @ MTL Clamp Rings				Layer 1 of 1	
APES-2508-A02			B25-1447		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Putty			Total Non-Fibrous		99.90		Cellulose	0.10	Non-Detect	
Comment: Grey Pliable Putty					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect	

Client ID #			AAL ID #		Location: Roof "D": South Middle Roof Drain; @ MTL Clamp Rings				Layer 1 of 1	
APES-2508-A03			B25-1448		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Putty			Total Non-Fibrous		99.90		Cellulose	0.10	Non-Detect	
Comment: Grey Pliable Putty					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect	

Client ID #			AAL ID #		Location: Roof "C": 4" VTR; @ VTR & Membrane Collar (MTL)				Layer 1 of 1	
APES-2508-A04			B25-1449		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Sealant			Total Non-Fibrous		99.90		Cellulose	0.10	Non-Detect	
Comment: Dark Grey Sealant					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect	

Client ID #			AAL ID #		Location: Roof "D": 4" VTR; @ VTR & Membrane Collar (MTL)				Layer 1 of 1	
APES-2508-A05			B25-1450		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Sealant			Total Non-Fibrous		99.90		Cellulose	0.10	Non-Detect	
Comment: Dark Grey Sealant					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect	

Client ID #			AAL ID #		Location: Roof "B": South Middle Overflow Drain; @ MTL Clamp Rings				Layer 1 of 1	
APES-2508-A06			B25-1451		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous		%	Type	%	
Putty			Total Non-Fibrous		98.00		Cellulose	2.00	Non-Detect	
Comment: Grey Pliable Putty					Total Non-Asbestos Fibrous		2.00	Total Asbestos	Non-Detect	

Alaska Asbestos Laboratory

Bulk Asbestos Analysis by PLM

3633 Parsons Avenue Anchorage, Alaska 99508

AAL Project #: 25-0936

Report #: B25-0936

Client Project #: 8205-01

Report Date: 08/26/25

Client ID #		AAL ID #		Location: Roof "B": 4" VTR; @ VTR & Membrane Collar (MTL)				Layer 1 of 1	
APES-2508-A07		B25-1452		Non-Asbestos Components				Asbestos	
Material	Color	Homogenous	Misc. Non-Fibrous	%	Non-Asbestos Fibrous	%	Type	%	
Sealant	Gray	Yes	Total Non-Fibrous		99.90	Cellulose	0.10	Non-Detect	
Comment: Dark Grey Sealant					Total Non-Asbestos Fibrous		0.10	Total Asbestos	Non-Detect

Please Note:

1. All quantitation of material in this report is based on a Calibrated Visual Estimate and not weight, unless otherwise noted. Calibrated Visual Estimate's are an accepted method of quantitation by the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis by PLM.
2. Methods authorized by NVLAP do not include analysis of materials where the asbestos content is not consistently distributed throughout the material. Examples would include: soil, debris, vermiculite insulation, etc. However, under some circumstances, such as a small amount of material present, further sample reduction/homogenization is not practical and PLM can be appropriate. AAL will work with clients to determine the best analytical methods for the sample. Transmission Electron Microscopy (TEM) is also an available analytical option.

Methods: EPA 600/R-93/116 and EPA-40 CFR Appendix E to Subpart E of Part 763. AAL will use either method as directed by the client and/or as indicated by the sample material.

Reporting Limit: Less than 1% asbestos content by Calibrated Visual Estimate using PLM

Regulatory Limit: Greater than 1% asbestos content per the EPA

This analytical report relates only to the samples analyzed (as delivered). This report may not be reproduced, except in full, without written approval by Alaska Asbestos Laboratory (AAL). AAL makes no warranty (either direct or implied) as to the accuracy or content of any materials or information submitted by the client in preparing and presenting analytical results. The interpretation and regulatory compliance in regards to any analytical results are the sole responsibility of the client. Any information reported, in addition to analytical findings, is for informational purposes only. AAL does not provide any consultation for remediation of regulated materials. Unless otherwise noted, all samples were received in acceptable condition and suitable for analysis. The EPA recommends all non-friable organically bound materials (NOB), such as vinyl floor tiles, found not to contain asbestos by PLM analysis, be further analyzed by Transmission Electron Microscopy (TEM).

Information provided by the client may include, but is not limited to: client ID's (sample numbers), sample locations, sample descriptions (listed as material on report), collection/sampling information sheets including location(s)/drawings/maps. AAL assumes no liability for any missing or non-submitted information and, at its sole discretion, reserves the right to supplement or add industry standard designations or other information to the analytical report.

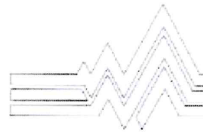


Approved By: _____

Joel Hicklin

Joel Hicklin, Laboratory Manager

Date: 08/26/2025


EHS ALASKA
INCORPORATED

EHS-Alaska, Inc.

11901 Business Blvd., Suite 200, Anchorage, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • ehslabs@ehs-alaska.com

PROJECT NO: 8205-01	PROJECT NAME: Alpenglow ES Re-Roof - Interior	FACILITY: Alpenglow Elementary	COLLECTION DATE: 07/8-9/2025

CHAIN OF CUSTODY RECORD

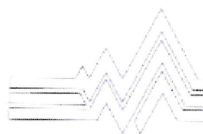
ANALYSIS REQUESTED:	☒ PLM BULK	☐ PLM DUST	☐ TEM BULK	TYPE:	TURNAROUND:	DISPOSAL:	QUANTITY:
	☐ LEAD DUST	☐ LEAD TCLP	☐ LEAD PPM	☒ ASBESTOS	2 DAYS	NORMAL	20
☐ TEM MICROVAC DUST (ASTM 5756)				☐ LEAD			
COLLECTED BY (signature) John H. Lamont Fisher G. Gandel PRINTED NAME 20220011 / T-30203-41066 20241023 / T-31317-45276 CERT# AHERA# FedEx SHIPPING METHOD FedEx#: 882680100270 COURIER (signature) DATE/TIME 7/10				SPECIAL INSTRUCTIONS / COMMENTS: IATL SELECTED LABORATORY LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC. See sample location drawing for more detailed explanation of exact locations. ND = None Detected			
SAMPLES ACCEPTED BY DATE/TIME ANALYST'S SIGNATURE DATE							

FIELD SURVEY DATA

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
APES2507-A01	White Skim Coat	Art/Health Rm 101, north wall above ceiling tiles. P121	ND
APES2507-A02	Black Sink Undercoating	Kinder 107, beneath sink along western wall. P180	ND
APES2507-A03	Wall Box Speaker Housing Sticky Black Coating	Room 112, from clock speaker along south wall. P216	ND
APES2507-A04	Wall Box Speaker Housing Sticky Black Coating	IMC 201, from west wall-mounted speaker box near main double door. P325	ND
APES2507-A05	Off-White Tectum Ceiling Board, White/Grey Fireproofing	Eastern wing hallway, very end, from north wall. P473	ND All
APES2507-A06	Brick Red Firestop, White Skim Coat	Room 222, from above ceiling directly in front of the door. P478	ND All
APES2507-A07	CB-2: Grey 4" Vinyl Cove Base, Tan Mastic, White Joint/Leveling Compound	Classroom 219, east wall, where the tile becomes carpet. P12F	ND All
APES2507-A08	CPT-3 Yellow Mastic, Black Mastic	Classroom 219, east wall, where the tile becomes carpet. P12F	ND All
APES2507-A09	Brick Red Firestop, White Skim Coat	Classroom 213, from above ceiling directly in front of doorway. P487	ND All



004142616

**EHS ALASKA**
INCORPORATED**EHS-Alaska, Inc.**

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • ehslabs@ehs-alaska.com

PROJECT NO: 8205-01	PROJECT NAME: Alpenglow ES Re-Roof - Interior	FACILITY: Alpenglow Elementary	COLLECTION DATE: 07/8-9/2025
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
APES2507-A10	Off-White Tectum Ceiling Board, White/Grey Fireproofing, White Joint Compound	East wing hall, in front of classroom 213, from south wall. P490	ND All
APES2507-A11	Circular Ceiling Speaker Housing Sticky Black Coating	West wing hall, in front of room 118, from circular speaker embedded in tectum. P603	ND All
APES2507-A12	Off-White Tectum Ceiling Board	West wing hall, in front of room 118, from behind the speaker housing's edge. P604	ND
APES2507-A13	Brick Red Firestop	Classroom 119, from above ceiling directly in front of door. P610	ND
APES2507-A14	White Sealant	West hallway, from north window next to the vestibule and where the hallway jogs south, between window frame and curb. P621	ND
APES2507-A15	Beige/Green Rubber Mat Flooring (black underside)	301E, gym loading area/ storage, from removable rubber mat floor lain on concrete. P19F	ND
APES2507-A16	Brick Red Firestop	301A, from west wall above doorways at CMU penetration. P636	ND
APES2507-A17	Pliable Grey Duct Seam Sealant	Fan Room 604, from where west AHU (3) connects to rectangular metal ducts. P713	2% Chrys
APES2507-A18	Pliable Grey Duct Seam Sealant	Fan Room 604, from AHU (1) between rect. metal duct seams. P719	2% Chrys
APES2507-A19	Pliable Grey Duct Seam Sealant	Fan Room 604, from rect. metal duct seams along west wall closer to northwest corner. P722	2% Chrys
APES2507-A20	Wall Box Speaker Housing Sticky Black Coating	Kitchen 302, south wall, from wall speaker box next to clock. P732	ND
END	END	END	



Report for:

John Lamont
EHS-Alaska, Inc.
11901 Business Blvd, Suite 208
Eagle River, AK 99577

Regarding: Eurofins Built Environment Testing East, LLC
Project: 8205-01 - Alpenglow Elementary
EML ID: 4142616

Approved by:

A handwritten signature in black ink, appearing to read "Frank Ehrenfeld".

Approved Signatory
Frank Ehrenfeld

Dates of Analysis:
Asbestos PLM (Layer %): 07-14-2025

Service SOPs: Asbestos PLM (Layer %) (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 101165-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing East, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins Built Environment Testing East, LLC
 9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
 (856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.

C/O: John Lamont

Re: 8205-01 - Alpenglow Elementary

Date of Receipt: 07-11-2025

Date of Report: 07-14-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES2507-A01. White Skim Coat; Art/Health Rm 101, North Wall above Ceiling Tiles. P121 20689814-1	Layer 1 White Skim Coat Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A02. Black Sink Undercoating; Kinder 107, beneath Sink along Western Wall. P180 20689815-1	Layer 1 Black Coating Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A03. Wall Box Speaker Housing Sticky Black Coating; Room 112, from Clock Speaker along South Wall. P216 20689816-1	Layer 1 Black Coating Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A04. Wall Box Speaker Housing Sticky Black Coating; IMC 201, from West Wall-Mounted Speaker Box near Main Double Door. P235 20689817-1	Layer 1 Black Coating Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A05. Off White Tectum Ceiling Board, White/Grey Fireproofing; Eastern Wing Hallway, Very End, from North Wall. P473 20689818-1	Layer 1 Off-White Fibrous Material - ceiling board material Homogeneity:Good	Not Detected	97% Cellulose 3% Non-Fibrous Material	
	Layer 2 Gray Fireproofing Homogeneity:Moderate	Not Detected	80% Non-Fibrous Material 20% Cellulose	
APES2507-A06. Brick Red Firestop, White Skim Coat; Room 222, from Above Ceiling Directly in Front of the Door. P478 20689819-1	Layer 1 Red Fire Stop Homogeneity:Good	Not Detected	99% Non-Fibrous Material 1% Glass Fibers	
	Layer 2 White Skim Coat Homogeneity:Good	Not Detected	100% Non-Fibrous Material	

Comments:

The total percentage of sample components shown may be greater than 100% when some components are detected at <1%.

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers of that type were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins Built Environment Testing East, LLC
 9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
 (856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.

C/O: John Lamont

Re: 8205-01 - Alpenglow Elementary

Date of Receipt: 07-11-2025

Date of Report: 07-14-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES2507-A07. CB-2; Classroom 219, East Wall, Where the Tile Becomes Carpet. P12F 20689820-1(cont.)	Layer 1 Gray Cove Base Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
	Layer 2 Yellow Mastic Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
	Layer 3 White Joint Compound Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A08. CPT-3; Classroom 219, East Wall, Where the Tile Becomes Carpet. P12F 20689821-1	Layer 1 Black/Yellow Mastic Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A09. Brick Red Firestop, White Skim Coat; Classroom 213, from Above Ceiling Directly in Front of Doorway. P487 20689822-1	Layer 1 Red Fire Stop Homogeneity:Good	Not Detected	99% Non-Fibrous Material 1% Glass Fibers	
	Layer 2 White Skim Coat Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A10. Off-White Tectum Ceiling Board, White/Grey Fireproofing, White Joint Compound; East Wing Hall, in Front of Classroom 213, from South Wall. P490 20689823-1	Layer 1 Off-White Fibrous Material - ceiling board material Homogeneity:Good	Not Detected	97% Cellulose 3% Non-Fibrous Material	
	Layer 2 Gray Fireproofing Homogeneity:Moderate	Not Detected	80% Non-Fibrous Material 20% Cellulose	
	Layer 3 White Joint Compound Homogeneity:Good	Not Detected	100% Non-Fibrous Material	

Comments:

The total percentage of sample components shown may be greater than 100% when some components are detected at <1%.

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Client: EHS-Alaska, Inc.

C/O: John Lamont

Re: 8205-01 - Alpenglow Elementary

Date of Receipt: 07-11-2025

Date of Report: 07-14-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES2507-A11. Circular Ceiling Speaker Housing Sticky Black Coating; West Wing Hall, in Front of Room 118, from Circular Speaker Embedded in Tectum. P603 20689824-1	Layer 1 Black Coating Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A12. Off-White Tectum Ceiling Board; West Wing Hall, in Front of Room 118, form behind the Speaker Housing's Edge. P604 20689825-1	Layer 1 Off-White Fibrous Material - ceiling board material Homogeneity:Good	Not Detected	95% Cellulose 5% Non-Fibrous Material	
APES2507-A13. Brick Red Firestop; Classroom 119, from above Ceiling Directly in Front of Door. P610 20689826-1	Layer 1 Red Fire Stop Homogeneity:Good	Not Detected	99% Non-Fibrous Material 1% Glass Fibers	
APES2507-A14. White Sealant; West Hallway, from North Window next to the Vestibule and where the Hallway Jogs South, between Window Frame and Curb. P621 20689827-1	Layer 1 White Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A15. Beige/Green Rubber Mat Flooring (Black Underside); 301E, Gym Loading Area/ Storage, from Removable Rubber Mat Floor Lain on Concrete. P19F 20689828-1	Layer 1 Gray Non-Fibrous Material - rubber mat Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES2507-A16. Brick Red Firestop; 301A, from West Wall above Doorways at CMU Penetration. P636 20689829-1	Layer 1 Red Fire Stop Homogeneity:Good	Not Detected	99% Non-Fibrous Material 1% Glass Fibers	
APES2507-A17. Pliable Grey Duct Seam Sealant; Fan Room 604, from where West AHU (3) Connects to Rectangular Metal Ducts. P713 20689830-1	Layer 1 Gray Sealant Homogeneity:Good	2% Chrysotile	98% Non-Fibrous Material	
APES2507-A18. Pliable Grey Duct Seam Sealant; Fan Room 604, from AHU (1) between Rect. Metal Duct Seams. P719 20689831-1	Layer 1 Gray Sealant Homogeneity:Good	2% Chrysotile	98% Non-Fibrous Material	

Comments:

The total percentage of sample components shown may be greater than 100% when some components are detected at <1%.

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Eurofins Built Environment Testing East, LLC
 9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
 (856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.

C/O: John Lamont

Re: 8205-01 - Alpenglow Elementary

Date of Receipt: 07-11-2025

Date of Report: 07-14-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES2507-A19. Pliable Grey Duct Seam Sealant; Fan Room 604, from Rect. Metal Duct Seams along West Wall Closer to Northwest Corner. P722 20689832-1	Layer 1 Gray Sealant Homogeneity: Good	2% Chrysotile	98% Non-Fibrous Material	
APES2507-A20. Wall Box Speaker Housing Sticky Black Coating; Kitchen 302, South Wall, from Wall Speaker Box next to Clock. P732 20689833-1	Layer 1 Black Coating Homogeneity: Good	Not Detected	100% Non-Fibrous Material	

Comments:

Analyst(s): Ellen Smith

The total percentage of sample components shown may be greater than 100% when some components are detected at <1%.

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Eurofins Built Environment Testing East, LLC
9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
(856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.
C/O: John Lamont
Re: 8205-01 - Alpenglow Elementary

Date of Receipt: 07-11-2025
Date of Report: 07-14-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

PROJECT ANALYST AND SIGNATORY REPORT

Project Analyst



Analyst: Ellen Smith

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

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EHS ALASKA
INCORPORATED

EHS-Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • ehslabs@ehs-alaska.com

PROJECT NO: 8205-01	PROJECT NAME: ASD Alpenglow ES ReRoof	FACILITY: Alpenglow Elementary School	COLLECTION DATE: 04/15/25

CHAIN OF CUSTODY RECORD			
ANALYSIS REQUESTED:	☒ PLM BULK ☐ LEAD DUST ☐ TEM MICROVAC DUST (ASTM 5756)	☐ PLM DUST ☐ LEAD TCLP ☐ TEM BULK ☐ LEAD PPM	TYPE: ☒ ASBESTOS ☐ LEAD
		TURNAROUND: 3 DAYS	DISPOSAL: NORMAL
		QUANTITY 19	

COLLECTED BY (signature) John H. Lamont PRINTED NAME T-30203-41066 / 20220011 CERT# / AHERA# FedEx SHIPPING METHOD FedEx: 8806 1035 4704 COURIER (signature) 04/17/2025 1030 am DATE/TIME	IATL SELECTED LABORATORY SAMPLES ACCEPTED BY DATE/TIME ANALYST'S SIGNATURE DATE 	SPECIAL INSTRUCTIONS / COMMENTS: LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC. See sample location drawing for more detailed explanation of exact locations.

FIELD SURVEY DATA ND=NONE DETECTED			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
APES-2504-A01	Off-white spray-applied fireproofing	Center East Roof: Spray-applied fireproofing at roof access hatch, on metal deck. Photo 90	ND
APES-2504-A02	White sealant; with clear sealant	Center East Roof: Sealant at glazing and metal window frame. Photo 104	BOTH LAYERS = ND
APES-2504-A03	Off-white sealant at corrugated metal roof	Center East Roof: Seam sealant between corrugated metal roof panels. Photo 107	ND
APES-2504-A04	Black sealant at glazing	Center East Roof: Sealant at glazing and metal window frame. Photo 110	ND
APES-2504-A05	Black sealant at rubber membrane	Center East Roof: Sealant at rubber membrane lap. Photo 114	ND
APES-2504-A06	Clear sealant at metal flashing	Center West Roof: Sealant at metal flashing on parapet wall. Photo 141	ND
APES-2504-A07	Off-white sealant at corrugated metal roof	Center West Roof: Seam sealant between corrugated metal roof panels. Photo 142	ND
APES-2504-A08	White sealant; with clear sealant	Center West Roof: Sealant at glazing and metal window frame. Photo 143	BOTH LAYERS = ND
APES-2504-A09	Off-white sealant at corrugated metal roof	Center West Roof: Seam sealant between corrugated metal roof panels. Photo 145	ND


EHS ALASKA
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EHS-Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • ehslabs@ehs-alaska.com

PROJECT NO: 8205-01	PROJECT NAME: ASD Alpenglow ES ReRoof	FACILITY: Alpenglow Elementary School	COLLECTION DATE: 04/15/25
FIELD SURVEY DATA ND = NONE DETECTED			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
APES-2504-A10	Light grey sealant at metal flashing	Center West Roof: Sealant between metal flashing and concrete masonry unit block wall. Photo 149	ND
APES-2504-A11	Black sealant at rubber membrane	West Roof: Sealant at rubber membrane lap. Photo 157	ND
APES-2504-A12	Light grey sealant at metal flashing	West Roof: Sealant between metal flashings on parapet wall. Photo 158	ND
APES-2504-A13	Light grey sealant at metal flashing	Center West Roof: Sealant on metal exhaust hood. Photo 160	ND
APES-2504-A14	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 161	ND
APES-2504-A15	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 164	ND
APES-2504-A16	Black sealant at rubber membrane	Center West Roof: Sealant between rubber membrane and metal exhaust. Photo 165	ND
APES-2504-A17	Black sealant at rubber membrane	North Roof: Sealant between rubber membrane and metal boiler stack. Photo 204	ND
APES-2504-A18	Off-white sealant at corrugated metal roof	Center East Roof: Seam sealant between corrugated metal roof panels. Photo 37	ND
APES-2504-A19	Light grey sealant at rubber membrane	Center West Roof: Sealant patch on rubber membrane at roof access hatch curb. Photo 123	ND
END	**END**	**END**	



Report for:

John Lamont
EHS-Alaska, Inc.
11901 Business Blvd, Suite 208
Eagle River, AK 99577

Regarding: Eurofins Built Environment Testing East, LLC
Project: 8205-01 - Alpenglow ES
EML ID: 4036497

Approved by:

A handwritten signature in black ink, appearing to read "Frank Ehrenfeld".

Approved Signatory
Frank Ehrenfeld

Dates of Analysis:
Asbestos PLM (Layer %): 04-24-2025

Service SOPs: Asbestos PLM (Layer %) (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 101165-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing East, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins Built Environment Testing East, LLC
 9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
 (856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.
 C/O: John Lamont
 Re: 8205-01 - Alpenglow ES

Date of Receipt: 04-18-2025
 Date of Report: 04-24-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES-2504-A01. Off-White Spray-Applied Fireproofing; Center East Roof: Spray-Applied Fireproofing at Roof Access Hatch, on Metal Deck. P90 20103432-1	Layer 1 Gray Fireproofing Homogeneity:Good	Not Detected	70% Non-Fibrous Material 30% Cellulose	
APES-2504-A02. White with Clear Sealant; Center East Roof: Sealant at Glazing and Metal Window Frame. P104 20103433-1	Layer 1 Clear Sealant w/ White Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A03. Off-White Sealant; Center East Roof: Seam Sealant between Corrugated Metal Roof Panels. P107 20103434-1	Layer 1 Off-White Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A04. Back Sealant; Center East Roof: Sealant at Glazing and Metal Window Frame. P110 20103435-1	Layer 1 Black Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A05. Back Sealant; Center East Roof: Sealant at Rubber Membrane Lap. P114 20103436-1	Layer 1 Black Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A06. Clear Sealant; Center West Roof: Sealant at Metal Flashing on Parapet Wall. P141 20103437-1	Layer 1 Clear Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A07. Off-White Sealant; Center West Roof: Seam Sealant between Corrugated Metal Roof Panels. P142 20103438-1	Layer 1 Off-White Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A08. White Sealant; Center West Roof: Sealant at Glazing and Metal Window Frame. P143 20103439-1	Layer 1 Clear Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	
	Layer 2 White Sealant Homogeneity:Good	Not Detected	100% Non-Fibrous Material	

Comments:

The total percentage of sample components shown may be greater than 100% when some components are detected at <1%.

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Eurofins Built Environment Testing East, LLC
 9000 Commerce Parkway, Suite B, Mount Laurel, NJ 08054
 (856) 231-9449 www.eurofinsus.com/Built

Client: EHS-Alaska, Inc.
 C/O: John Lamont
 Re: 8205-01 - Alpenglow ES

Date of Receipt: 04-18-2025
 Date of Report: 04-24-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES-2504-A09. Off-White Sealant; Center West Roof: Seam Sealant between Corrugated Metal Roof Panels. P145 20103440-1	Layer 1 Off-White Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A10. Light Grey Sealant; Center West Roof: Sealant between Metal Flashing and Concrete Masonry Unit Block Wall. P149 20103441-1	Layer 1 Light Gray Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A11. Black Sealant; West Roof: Sealant at Rubber Membrane Lap. P157 20103442-1	Layer 1 Black Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A12. Light Grey Sealant; West Roof: Sealant between Metal Flashings on Parapet Wall. P158 20103443-1	Layer 1 Light Gray Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A13. Light Grey Sealant; Center West Roof: Sealant on Metal Exhaust Hood. P160 20103444-1	Layer 1 Light Gray Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A14. Black Sealant; Center West Roof: Sealant between Rubber Membrane and Metal Exhaust. P161 20103445-1	Layer 1 Black Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A15. Black Sealant; Center West Roof: Sealant between Rubber Membrane and Metal Exhaust. P164 20103446-1	Layer 1 Black Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A16. Black Sealant; Center West Roof: Sealant between Rubber Membrane and Metal Exhaust. P165 20103447-1	Layer 1 Black Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A17. Black Sealant; North Roof: Sealant between Rubber Membrane and Metal Boiler Stack. P204 20103448-1	Layer 1 Black Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	

Comments:

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Client: EHS-Alaska, Inc.
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Re: 8205-01 - Alpenglow ES

Date of Receipt: 04-18-2025

Date of Report: 04-24-2025

Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

Sample ID # Lab-ID version	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	Comment
APES-2504-A18, Off-White Sealant; Center East Roof: Seam Sealant between Corrugated Metal Roof Panels. P37 20103449-1	Layer 1 Off-White Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	
APES-2504-A19, Light Grey Sealant; Center West Roof: Sealant Patch on Rubber Membrane at Roof Access Hatch Curb. P123 20103450-1	Layer 1 Light Gray Sealant Homogeneity: Good	Not Detected	100% Non-Fibrous Material	

Comments:**Analyst(s):** Maxamillian Roselli

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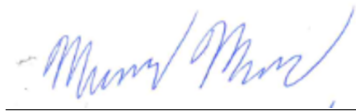
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Date of Receipt: 04-18-2025
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Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)
Appx E Sub E 40 CFR 763 / EPA 600/R-93/116

PROJECT ANALYST AND SIGNATORY REPORT

Project Analyst



Analyst: Maxamillian Roselli

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EHS-Alaska, Inc.

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PROJECT NO: 7752-05	PROJECT NAME: ASD Multi-Site Secure Vestibule Upgrades, Group 2, Season 2	FACILITY: Alpenglow Elementary School	COLLECTION DATE: 06/23/2020

CHAIN OF CUSTODY RECORD

ANALYSIS REQUESTED:	☒ PLM BULK ☐ LEAD DUST ☐ TEM MICROVAC DUST (ASTM 5756)	☐ PLM DUST ☐ LEAD TCLP ☐ TEM BULK ☐ LEAD PPM	TYPE:	☒ ASBESTOS ☐ LEAD	TURNAROUND: 3 DAY	DISPOSAL: NORMAL	QUANTITY 36
COLLECTED BY (signature) Christopher Ottosen PRINTED NAME 20110972/T-28007-21478 CERT# / AHERA# Fed Ex SHIPPING METHOD FedEx 7708 3086 4920 COURIER (signature) 06/30/2020 10:00 AM DATE/TIME		IATL SELECTED LABORATORY SAMPLES ACCEPTED BY DATE/TIME ANALYST'S SIGNATURE DATE IATL - BY		SPECIAL INSTRUCTIONS / COMMENTS: LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC. **DO NOT ANALYZE FOAM, PAINTS, OR WOOD** See sample location drawing for more detailed explanation of exact locations. MD = None Detected			

FIELD SURVEY DATA

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
AG0620-A01 7028870	Black sink undercoating	East side of Nurse 102 on bottom of stainless steel sink – Photo B54	MD
AG0620-A02 7028871	(LCT1) Lay-in ceiling tile, 2' x 4' white with false 2' x 2' appearance and beveled edges with 1/8" wide x 1/2" long random fissures and 1/16" holes	South side of Nurse 102 – Photo C07	MD
AG0620-A03 7028872	Black sticky coating on inside of clock-speaker housing	West side of Nurse 102 – Photo B55	MD
AG0620-A04 7028873	(SV1) Sheet vinyl, off-white, beige, blue and pink pebbles, self-coving; with tan mastic	East side of Nurse 102 – Photo C08	MD 2 layers
AG0620-A05 7028874	Greyish-white crumbly spray-on fireproofing	Above ceiling on wire support on south side of Room 100A – Photo C09	MD
AG0620-A06 7028875	(FT1) Floor tile, 12" x 12" off-white with black sand pattern; with black mastic	Nook at northwest side of Room 100D – Photo C10	MD 2 layers
AG0620-A07 7028876	(CB1) Cove base, 4" light grey; with off-white mastic; with white joint compound	Nook at northwest side of Room 100D – Photo C11	MD 3 layers
AG0620-A08 7028877	Crispy tan carpet mastic	East entrance to Room 106 – Photo C12	MD


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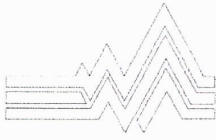
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e-mail • ehsak@ehs-alaska.com

PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7752-05	ASD Multi-Site Secure Vestibule Upgrades, Group 2, Season 2	Alpenglow Elementary School	06/23/2020

FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
AG0620-A09 7023878	(FT1) Floor tile, 12" x 12" off-white with black sand pattern; with black mastic; with tan mastic; with clear mastic	East entrance to Room 106 – Photo C13	ND 4 Layers
AG0620-A10 7023879	White gypsum wall board; with white joint compound	Above ceiling on northeast side of Room 100C – Photo B56	ND 2 Layers
AG0620-A11 7023880	White joint compound	Above ceiling on north side of Room 100C – Photo B57	ND
AG0620-A12 7023881	Greyish-white crumbly spray-on fireproofing	Bottom of beam above ceiling on north side of Room 100C – Photo B59	ND
AG0620-A13 7023882	(SV1) Sheet vinyl, off-white, beige, blue and pink pebbles, self-coving; with tan mastic; with off-white leveling compound	South side of Room 106A – Photo C14	ND 3 Layers
AG0620-A14 7023883	Black sticky coating on inside of clock-speaker housing	Southeast side of Room 104 – Photo C15	ND
AG0620-A15 7023884	Black sink undercoating	West side of Room 104 on bottom of stainless steel sink – Photo C16	ND
AG0620-A16 7023885	White gypsum wall board	Above ceiling at southeast side of partial wall in Room 106 – Photo B60	ND
AG0620-A17 7023886	Greyish-white crumbly spray-on fireproofing	Bottom of beam above ceiling on south side of Room 106 – Photo B62	ND
AG0620-A18 7023887	(LCT1) Lay-in ceiling tile, 2' x 4' white with false 2' x 2' appearance and beveled edges with 1/8" wide x 1/2" long random fissures and 1/16" holes	Southeast side of partial wall in Room 106 – Photo B63	ND
AG0620-A19 7023888	White joint compound; with pink joint compound	Above ceiling at northeast side of partial wall in Room 106 – Photo B64	ND 2 Layers
AG0620-A20 7023889	White duct tape	Above ceiling on round metal duct on north side of Room 106 – Photo B65	ND
AG0620-A21 7023890	(FT2) Floor tile, 12" x 12" "grey pebbles" pattern in hallways; with tan sticky mastic	At south entrance of Room 202 – Photo C17	ND 2 Layers


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PROJECT NO: 7752-05	PROJECT NAME: ASD Multi-Site Secure Vestibule Upgrades, Group 2, Season 2	FACILITY: Alpenglow Elementary School	COLLECTION DATE: 06/23/2020

FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
AG0620-A22 7023891	(FT3) Floor tile, 12" x 12" "black pebbles" pattern in hallways; with tan sticky mastic	At south entrance of Room 202 – Photo C18	MD 2 Layers
AG0620-A23 7023892	(FT4) Floor tile, 12" x 12" "white pebbles" pattern in hallways; with tan sticky mastic; with white leveling compound	At north entrance of Room 207 – Photo C20	MD 3 Layers
AG0620-A24 7023893	(CB1) Cove base, 4" light grey; with tan mastic; with white cementitious	At south entrance of Room 206 – Photo C21	MD 3 Layers
AG0620-A25 7023894	Greyish-white crumbly spray-on fireproofing; with yellow fiberglass	At damaged area of fireproofing on concrete masonry unit wall next to roof access ladder at northwest corner of Room 206 – Photo C22	MD 2 Layers
AG0620-A26 7023895	(LCT2) Lay-in ceiling tile, 2' x 2' white with beveled edges with 3/16" jagged oblong fissures and 1/32" to 1/8" holes	North side of Room 204 – Photo B66	MD
AG0620-A27 7023896	White joint compound; with yellow joint compound	North side of Room 204 – Photo B67	MD 3 Layers
AG0620-A28 7023897	Greyish-white crumbly spray-on fireproofing	Bottom of beam on the north side of Room 204 – Photo B68	MD
AG0620-A29 7023898	White duct tape	On large round metal duct on south side of Computer Room 200 – Photo B69	MD
AG0620-A30 7023899	Crispy tan carpet mastic	East side of Computer Room 200 – Photo B70	MD
AG0620-A31 7023900	Exterior "Stucco": off-white "finish" coat; with grey "scratch" coat	Outside of Vestibule 1701 – Photo C37	MD 2 Layers
AG0620-A32 7023901	Exterior "Stucco": off-white "finish" coat; with grey "scratch" coat	Outside Room 302 – Photo C47	MD 2 Layers
AG0620-A33 7023902	(RF1) Rubber floor, black 1" "raised dot" pattern; with grey mastic; with grey leveling compound	North side of Vestibule 1101 – Photo C53	MD 3 Layers
AG0620-A34 7023903	(RF2) Rubber floor, green 1" "raised dot" pattern; with grey mastic	North side of Vestibule 1101 – Photo C53	MD 2 Layers



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Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577 Client: EHS511	Report Date: 7/2/2020 Report No.: 615797 - PLM Rev #2, 7/8/2020 Project: Aplenglow Elementary School Project No.: 7752-05

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028870 Client No.: AG0620-A01 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Black Sink Undercoating Client Description: Black Sink Undercoating <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Side Of Nurse 102 On Bottom Of Stainless Steel Sink Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028871 Client No.: AG0620-A02 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Ceiling Tile Client Description: (LCT1) Lay-In Ceiling Tile, 2'X4' White With False 2'X2' Appearance And Beveled Edges With 1/8" Wide <u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose 30 Fibrous Glass	Location: South Side Of Nurse 102 Facility: <u>Percent Non-Fibrous Material:</u> 40
Lab No.: 7028872 Client No.: AG0620-A03 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Black Coating Client Description: Black Sticky Coating On Inside Of Clock- Speaker Housing <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: West Side Of Nurse 102 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028873 Client No.: AG0620-A04 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Off-White Vinyl Sheet Flooring Client Description: (SV1) Sheet Vinyl, Off-White, Beige, Blue And Pink Pebbles, Self-Coving; With Tan Mastic <u>Percent Non-Asbestos Fibrous Material:</u> 15 Cellulose 10 Synthetic 10 Fibrous Glass	Location: East Side Of Nurse 102 Facility: <u>Percent Non-Fibrous Material:</u> 65
Lab No.: 7028873(L2) Client No.: AG0620-A04 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Tan Mastic Client Description: (SV1) Sheet Vinyl, Off-White, Beige, Blue And Pink Pebbles, Self-Coving; With Tan Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Side Of Nurse 102 Facility: <u>Percent Non-Fibrous Material:</u> 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
 Date Analyzed: 07/02/2020
 Signature:
 Analyst: Sarah Lipiecki

Approved By:
 Frank E. Ehrenfeld, III
 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated	Report Date: 7/2/2020
11901 Business Blvd., Ste 208	Report No.: 615797 - PLM Rev #2, 7/8/2020
Eagle River AK 99577	Project: Aplenglow Elementary School
Client: EHS511	Project No.: 7752-05

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028874 Client No.: AG0620-A05	Analyst Observation: Grey Spray-On Fireproofing Client Description: Greyish-White Crumbly Spray-On Fireproofing	Location: Above Ceiling On Wire Support On South Side Of Room 100A Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose	<u>Percent Non-Fibrous Material:</u> 80
Lab No.: 7028875 Client No.: AG0620-A06	Analyst Observation: White/Black Floor Tile Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic	Location: Nook At Northwest Side Of Room 100D Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028875(L2) Client No.: AG0620-A06	Analyst Observation: Black Mastic Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic	Location: Nook At Northwest Side Of Room 100D Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028876 Client No.: AG0620-A07	Analyst Observation: Grey Cove Base Client Description: (CB1) Cove Base, 4" Light Grey; With Off-White Mastic	Location: Nook At Northwest Side Of Room 100D Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028876(L2) Client No.: AG0620-A07	Analyst Observation: Off-White Mastic Client Description: (CB1) Cove Base, 4" Light Grey; With Off-White Mastic	Location: Nook At Northwest Side Of Room 100D Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028876(L3) Client No.: AG0620-A07	Analyst Observation: White Joint Compound Client Description: (CB1) Cove Base, 4" Light Grey; With Off-White Mastic	Location: Nook At Northwest Side Of Room 100D Facility:
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
Date Analyzed: 07/02/2020
Signature:
Analyst: Sarah Lipiecki

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director



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Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM Rev #2, 7/8/2020
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028877 Client No.: AG0620-A08 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Tan Mastic Client Description: Crispy Tan Carpet Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Entrance To Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028878 Client No.: AG0620-A09 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Floor Tile Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Entrance To Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028878(L2) Client No.: AG0620-A09 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Black Mastic Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Entrance To Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028878(L3) Client No.: AG0620-A09 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Tan Mastic Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: East Entrance To Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028878(L4) Client No.: AG0620-A09 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Clear Mastic Client Description: (FT1) Floor Tile, 12"X12" Off-White With Black Sand Pattern; With Black Mastic <u>Percent Non-Asbestos Fibrous Material:</u> 5 Cellulose	Location: East Entrance To Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 95

Lab No.: 7028879 Client No.: AG0620-A10 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Drywall Client Description: White Gypsum Wall Board <u>Percent Non-Asbestos Fibrous Material:</u> 3 Cellulose 7 Fibrous Glass	Location: Above Ceiling On Northeast Side Of Room 100C Facility: <u>Percent Non-Fibrous Material:</u> 90

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
Date Analyzed: 07/02/2020
Signature:
Analyst: Sarah Lipiecki

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated	Report Date: 7/2/2020
11901 Business Blvd., Ste 208	Report No.: 615797 - PLM Rev #2, 7/8/2020
Eagle River AK 99577	Project: Aplenglow Elementary School
Client: EHS511	Project No.: 7752-05

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028879(L2)	Analyst Observation: White Joint Compound	Location: Above Ceiling On Northeast Side Of Room 100C
Client No.: AG0620-A10	Client Description: White Gypsum Wall Board	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Lab No.: 7028880	Analyst Observation: White Joint Compound	Location: Above Ceiling On north Side Of Room 100C
Client No.: AG0620-A11	Client Description: White Joint Compound	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Lab No.: 7028881	Analyst Observation: Off-White Spray-On Fireproofing	Location: Bottom Of Beam Above Ceiling On North Side Of Room 100C
Client No.: AG0620-A12	Client Description: Greyish-White Crumbly Spray-On Fireproofing	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	20 Cellulose	80

Lab No.: 7028882	Analyst Observation: Off-White Vinyl Sheet Flooring	Location: South Side Of Room 106A
Client No.: AG0620-A13	Client Description: (SV1) Sheet Vinyl, Off-White, Beige, Blue And Pink Pebbles, Self-Coving; With Tan Mastic	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	5 Cellulose 10 Synthetic 10 Fibrous Glass	75

Lab No.: 7028882(L2)	Analyst Observation: Tan Mastic	Location: South Side Of Room 106A
Client No.: AG0620-A13	Client Description: (SV1) Sheet Vinyl, Off-White, Beige, Blue And Pink Pebbles, Self-Coving; With Tan Mastic	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
Date Analyzed: 07/02/2020
Signature:
Analyst: Sarah Lipiecki

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director



9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated	Report Date: 7/2/2020
11901 Business Blvd., Ste 208	Report No.: 615797 - PLM Rev #2, 7/8/2020
Eagle River AK 99577	Project: Aplenglow Elementary School
Client: EHS511	Project No.: 7752-05

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028882(L3)	Analyst Observation: Off-White Leveling Compound	Location: South Side Of Room 106A
Client No.: AG0620-A13	Client Description: (SV1) Sheet Vinyl, Off-White, Beige, Blue And Pink Pebbles, Self-Coving; With Tan Mastic	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	3 Cellulose	97
Lab No.: 7028883	Analyst Observation: Black Coating	Location: Southeast Side Of Room 104
Client No.: AG0620-A14	Client Description: Black Sticky Coating On Inside Of Clock-Speaker Housing	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100
Lab No.: 7028884	Analyst Observation: Black Sink Undercoating	Location: West Side Of Room 104 On
Client No.: AG0620-A15	Client Description: Black Sink Undercoating	Bottom Of Stainless Steel Sink
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	Facility:
None Detected	None Detected	<u>Percent Non-Fibrous Material:</u>
		100
Lab No.: 7028885	Analyst Observation: White Drywall	Location: Above Ceiling At Southeast Side
Client No.: AG0620-A16	Client Description: White Gypsum Wall Board	Of Partial Wall In Room 106
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	Facility:
None Detected	5 Cellulose	<u>Percent Non-Fibrous Material:</u>
	5 Fibrous Glass	90
Lab No.: 7028886	Analyst Observation: Grey Spray-On Fireproofing	Location: Bottom Of Beam Above Ceiling
Client No.: AG0620-A17	Client Description: Greyish-White Crumbly Spray-On Fireproofing	On South Side Of Room 106
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	Facility:
None Detected	25 Cellulose	<u>Percent Non-Fibrous Material:</u>
		75

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Signature:
Analyst: Sarah Lipiecki

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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577 Client: EHS511	Report Date: 7/2/2020 Report No.: 615797 - PLM Rev #2, 7/8/2020 Project: Aplenglow Elementary School Project No.: 7752-05

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028887 Client No.: AG0620-A18 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Ceiling Tile Client Description: (LCT1) Lay-In Ceiling Tile, 2'X4' White With False 2'X2' Appearance And Beveled Edges With 1/8" Wide <u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose 30 Fibrous Glass	Location: Southeast Side Of Partial Wall in Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 40
Lab No.: 7028888 Client No.: AG0620-A19 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Joint Compound Client Description: White Joint Compound; With Pink Joint Compound <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Above Ceiling At Northeast Side Of Partial Wall In Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028888(L2) Client No.: AG0620-A19 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Pink Joint Compound Client Description: White Joint Compound; With Pink Joint Compound <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Above Ceiling At Northeast Side Of Partial Wall In Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028889 Client No.: AG0620-A20 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Tape Client Description: White Duct Tape <u>Percent Non-Asbestos Fibrous Material:</u> 40 Cellulose	Location: Above Ceiling On Round Metal Duct On North Side Of Room 106 Facility: <u>Percent Non-Fibrous Material:</u> 60
Lab No.: 7028890 Client No.: AG0620-A21 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White/Black/Grey Floor Tile Client Description: (FT2) Floor Tile, 12"X12" "Grey Pebbles" Pattern In Hallways; With Tan Sticky Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At South Entrance Of Room 202 Facility: <u>Percent Non-Fibrous Material:</u> 100

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 Analyst: Sarah Lipiecki

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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM Rev #2, 7/8/2020
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028890(L2)
Client No.: AG0620-A21

Analyst Observation: Tan Mastic
Client Description: (FT2) Floor Tile, 12"X12" "Grey Pebbles" Pattern In Hallways; With Tan Sticky Mastic

Location: At South Entrance Of Room 202
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028891
Client No.: AG0620-A22

Analyst Observation: White/Black/Grey Floor Tile
Client Description: (FT3) Floor Tile, 12"X12" "Black Pebbles" Pattern In Hallways; With Tan Sticky Mastic

Location: At South Entrance Of Room 202
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028891(L2)
Client No.: AG0620-A22

Analyst Observation: Tan Mastic
Client Description: (FT3) Floor Tile, 12"X12" "Black Pebbles" Pattern In Hallways; With Tan Sticky Mastic

Location: At South Entrance Of Room 202
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028892
Client No.: AG0620-A23

Analyst Observation: White Floor Tile
Client Description: (FT4) Floor Tile, 12"X12" "White Pebbles" Pattern In Hallways; With Tan Mastic

Location: At North Entrance Of Room 207
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028892(L2)
Client No.: AG0620-A23

Analyst Observation: Tan Mastic
Client Description: (FT4) Floor Tile, 12"X12" "White Pebbles" Pattern In Hallways; With Tan Mastic

Location: At North Entrance Of Room 207
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028892(L3)
Client No.: AG0620-A23

Analyst Observation: White Leveling Compound
Client Description: (FT4) Floor Tile, 12"X12" "White Pebbles" Pattern In Hallways; With Tan Mastic

Location: At North Entrance Of Room 207
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020

Date Analyzed: 07/02/2020

Signature:

Analyst: Sarah Lipiecki

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577 Client: EHS511	Report Date: 7/2/2020 Report No.: 615797 - PLM Project: Aplenglow Elementary School Project No.: 7752-05 Rev #2, 7/8/2020

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028893 Client No.: AG0620-A24 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Grey Cove Base Client Description: (CB1) Cove Base, 4" Light Grey; With Tan Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At South Entrance Of Room 206 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028893(L2) Client No.: AG0620-A24 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Tan Mastic Client Description: (CB1) Cove Base, 4" Light Grey; With Tan Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At South Entrance Of Room 206 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028893(L3) Client No.: AG0620-A24 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: White Plaster Client Description: (CB1) Cove Base, 4" Light Grey; With Tan Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: At South Entrance Of Room 206 Facility: <u>Percent Non-Fibrous Material:</u> 100

Lab No.: 7028894 Client No.: AG0620-A25 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Grey Spray-On Fireproofing Client Description: Greyish-White Crumbly Spray-On Fireproofing <u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose	Location: At Damaged Area Of Fireproofing On Concrete Masonry Unit Wall Next To Roof Access Ladder At Northwes Facility: <u>Percent Non-Fibrous Material:</u> 80

Lab No.: 7028894(L2) Client No.: AG0620-A25 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Yellow Insulation Client Description: Greyish-White Crumbly Spray-On Fireproofing <u>Percent Non-Asbestos Fibrous Material:</u> 90 Fibrous Glass	Location: At Damaged Area Of Fireproofing On Concrete Masonry Unit Wall Next To Roof Access Ladder At Northwes Facility: <u>Percent Non-Fibrous Material:</u> 10

Please refer to the Appendix of this report for further information regarding your analysis.

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 Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM Rev #2, 7/8/2020
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028895	Analyst Observation: White Ceiling Tile	Location: North Side Of Room 204
Client No.: AG0620-A26	Client Description: (LCT2) Lay-In Ceiling Tile, 2'X2' White With Beveled Edges With 3/16" Jagged Oblong Fissures And 1/3	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	30 Cellulose 30 Fibrous Glass	40

Lab No.: 7028896	Analyst Observation: Yellow Joint Compound	Location: North Side Of Room 204
Client No.: AG0620-A27	Client Description: White Joint Compound	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Lab No.: 7028896(L2)	Analyst Observation: White Joint Compound	Location: North Side Of Room 204
Client No.: AG0620-A27	Client Description: White Joint Compound	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
None Detected	None Detected	100

Note: Sample/Layers analyzed by Linda Price, 7/08/20.

Lab No.: 7028897	Analyst Observation: Grey Spray-On Fireproofing	Location: Bottom Of Beam On The North
Client No.: AG0620-A28	Client Description: Greyish-White Crumbly Spray-On Fireproofing	Side Of Room 204
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	Facility:
None Detected	20 Cellulose	<u>Percent Non-Fibrous Material:</u>
		80

Lab No.: 7028898	Analyst Observation: White Tape	Location: On Large Round Metal Duct On
Client No.: AG0620-A29	Client Description: White Duct Tape	South Side Of Computer Room 200
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	Facility:
None Detected	40 Cellulose	<u>Percent Non-Fibrous Material:</u>
		60

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Date Received: 7/1/2020
Date Analyzed: 07/02/2020
Signature:
Analyst: Sarah Lipiecki

Approved By:
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Laboratory Director



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 CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM Rev #2, 7/8/2020
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

 PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028899	Analyst Observation: Tan Mastic	Location: East Side Of Computer Room
Client No.: AG0620-A30	Client Description: Crispy Tan Carpet Mastic	200
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Facility:</u>
<i>None Detected</i>	None Detected	<u>Percent Non-Fibrous Material:</u>
		100

Lab No.: 7028900	Analyst Observation: White Stucco	Location: Outside Of Vestibule 1701
Client No.: AG0620-A31	Client Description: Exterior "Stucco": Off-White "Finish" Coat; With Grey "Scratch" Coat	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

Lab No.: 7028900(L2)	Analyst Observation: Grey Stucco	Location: Outside Of Vestibule 1701
Client No.: AG0620-A31	Client Description: Exterior "Stucco": Off-White "Finish" Coat; With Grey "Scratch" Coat	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	7 Fibrous Glass	93

Lab No.: 7028901	Analyst Observation: White Stucco	Location: Outside Room 302
Client No.: AG0620-A32	Client Description: Exterior "Stucco": Off-White "Finish" Coat; With Grey "Scratch" Coat	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

Lab No.: 7028901(L2)	Analyst Observation: Grey Stucco	Location: Outside Room 302
Client No.: AG0620-A32	Client Description: Exterior "Stucco": Off-White "Finish" Coat; With Grey "Scratch" Coat	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	2 Cellulose 2 Fibrous Glass	96

Lab No.: 7028902	Analyst Observation: Black Rubber Tile	Location: North Side Of Vestibule 1101
Client No.: AG0620-A33	Client Description: (RF1) Rubber Floor, Black 1" "Raised Dot" Pattern; With Grey Mastic	Facility:
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
Date Analyzed: 07/02/2020
Signature:
Analyst: Sarah Lipiecki

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director



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CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577 Client: EHS511	Report Date: 7/2/2020 Report No.: 615797 - PLM Project: Aplenglow Elementary School Project No.: 7752-05 Rev #2, 7/8/2020

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028902(L2) Client No.: AG0620-A33 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Yellow Mastic Client Description: (RF1) Rubber Floor, Black 1" "Raised Dot" Pattern; With Grey Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: North Side Of Vestibule 1101 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028902(L3) Client No.: AG0620-A33 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Grey Plaster Client Description: (RF1) Rubber Floor, Black 1" "Raised Dot" Pattern; With Grey Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: North Side Of Vestibule 1101 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028903 Client No.: AG0620-A34 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Green Rubber Tile Client Description: (RF2) Rubber Floor, Green 1" "Raised Dot" Pattern; With Grey Mastic <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: North Side Of Vestibule 1101 Facility: <u>Percent Non-Fibrous Material:</u> 100
Lab No.: 7028903(L2) Client No.: AG0620-A34 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Yellow/Grey Mastic/Leveling Compound Client Description: (RF2) Rubber Floor, Green 1" "Raised Dot" Pattern; With Grey Mastic (RF2) Rubber Floor, Green 1" "Ra <u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	Location: North Side Of Vestibule 1101 Facility: <u>Percent Non-Fibrous Material:</u> 98
Lab No.: 7028904 Client No.: AG0620-A35 <u>Percent Asbestos:</u> <i>None Detected</i>	Analyst Observation: Green Rubber Tile Client Description: (RF2) Rubber Floor, Green 1" "Raised Dot" Pattern <u>Percent Non-Asbestos Fibrous Material:</u> None Detected	Location: Entrance To Room 229 Facility: <u>Percent Non-Fibrous Material:</u> 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 7/1/2020
 Date Analyzed: 07/02/2020
 Signature:
 Analyst: Sarah Lipiecki

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 Laboratory Director



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 CERTIFICATE OF ANALYSIS

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11901 Business Blvd., Ste 208
Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM Rev #2, 7/8/2020
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

 PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7028905
Client No.: AG0620-A36

Analyst Observation: Black Rubber Tile
Client Description: (RF1) Rubber Floor, Black 1" "Raised
Dot" Pattern; With Grey Mastic

Location: Entrance To Room 229
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Lab No.: 7028905(L2)
Client No.: AG0620-A36

Analyst Observation: Grey Mastic
Client Description: (RF1) Rubber Floor, Black 1" "Raised
Dot" Pattern; With Grey Mastic

Location: Entrance To Room 229
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
8 Cellulose

Percent Non-Fibrous Material:
92

Please refer to the Appendix of this report for further information regarding your analysis.

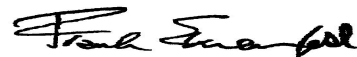
Date Received: 7/1/2020

Date Analyzed: 07/02/2020

Signature: 

Analyst: Sarah Lipiecki

Approved By:



Frank E. Ehrenfeld, III
Laboratory Director



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Eagle River AK 99577

Report Date: 7/2/2020
Report No.: 615797 - PLM
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

Appendix to Analytical Report

Customer Contact: Cali Swatowski

Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, and USEPA 600, R93-116 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com

iATL Office Manager: wchampion@iatl.com

iATL Account Representative: Semih Kocahasan

Sample Login Notes: See Batch Sheet Attached

Sample Matrix: Bulk Building Materials

Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)



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Report Date: 7/2/2020
Report No.: 615797 - PLM
Project: Aplenglow Elementary School
Project No.: 7752-05

Client: EHS511

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gänge, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/1198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
- Requirements/Comments:** Minimum of 0.1 g of sample. ~0.25% for most samples.



9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Ste 208
Eagle River AK 99577

Client: EHS511

Report Date: 7/2/2020
Report No.: 615797 - PLM
Project: Aplenglow Elementary School
Project No.: 7752-05

2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

*With advance notice and confirmation by the laboratory.

**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

APPENDIX B

Bulk Product PCB Sample Field Survey Data Sheets and Laboratory Reports

Page 10 of 10



CLIENT: EHS Alaska Inc
Project: Alpenglow ES Re-Roof
Work Order: 2507202

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2507202-001	APES-2507-PCB01	07/09/2025 12:00 AM	07/14/2025 9:11 AM
2507202-002	APES-2507-PCB02	07/09/2025 12:00 AM	07/14/2025 9:11 AM
2507202-003	APES-2507-PCB03	07/09/2025 12:00 AM	07/14/2025 9:11 AM
2507202-004	APES-2507-PCB04	07/09/2025 12:00 AM	07/14/2025 9:11 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original



Case Narrative

WO#: 2507202

Date: 7/21/2025

CLIENT: EHS Alaska Inc
Project: Alpenglow ES Re-Roof

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-001A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-002A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-003A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-004A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-001A) required Florisil Cleanup Procedure (Using Method No 3620C).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-002A) required Florisil Cleanup Procedure (Using Method No 3620C).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-003A) required Florisil Cleanup Procedure (Using Method No 3620C).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2507202-004A) required Florisil Cleanup Procedure (Using Method No 3620C).

Original



Qualifiers & Acronyms

WO#: 2507202

Date Reported: 7/21/2025

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate

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Analytical Report

Work Order: **2507202**Date Reported: **7/21/2025****CLIENT:** EHS Alaska Inc**Project:** Alpenglow ES Re-Roof**Lab ID:** 2507202-001**Collection Date:** 7/9/2025**Client Sample ID:** APES-2507-PCB01**Matrix:** Bulk

Analyses	Result	RL	Qual	Units	DF	Date Analyzed

PCBs by EPA Method 8082A

Batch ID: 48446

Analyst: CO

Aroclor 1016	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1221	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1232	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1242	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1248	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1254	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1260	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1262	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Aroclor 1268	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Total PCBs	ND	0.392		mg/Kg	1	7/15/2025 10:08:28 PM
Surr: Decachlorobiphenyl	158	36.6 - 160		%Rec	1	7/15/2025 10:08:28 PM
Surr: Tetrachloro-m-xylene	143	53.9 - 159		%Rec	1	7/15/2025 10:08:28 PM

Lab ID: 2507202-002**Collection Date:** 7/9/2025**Client Sample ID:** APES-2507-PCB02**Matrix:** Bulk

Analyses	Result	RL	Qual	Units	DF	Date Analyzed

PCBs by EPA Method 8082A

Batch ID: 48446

Analyst: CO

Aroclor 1016	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1221	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1232	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1242	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1248	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1254	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1260	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1262	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Aroclor 1268	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Total PCBs	ND	0.400		mg/Kg	1	7/15/2025 10:18:05 PM
Surr: Decachlorobiphenyl	152	36.6 - 160		%Rec	1	7/15/2025 10:18:05 PM
Surr: Tetrachloro-m-xylene	123	53.9 - 159		%Rec	1	7/15/2025 10:18:05 PM

Original



Analytical Report

Work Order: **2507202**Date Reported: **7/21/2025****CLIENT:** EHS Alaska Inc**Project:** Alpenglow ES Re-Roof**Lab ID:** 2507202-003**Collection Date:** 7/9/2025**Client Sample ID:** APES-2507-PCB03**Matrix:** Bulk

Analyses	Result	RL	Qual	Units	DF	Date Analyzed

PCBs by EPA Method 8082A

Batch ID: 48446

Analyst: CO

Aroclor 1016	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1221	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1232	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1242	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1248	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1254	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1260	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1262	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Aroclor 1268	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Total PCBs	ND	0.392		mg/Kg	1	7/15/2025 10:27:40 PM
Surr: Decachlorobiphenyl	161	36.6 - 160	S	%Rec	1	7/15/2025 10:27:40 PM
Surr: Tetrachloro-m-xylene	155	53.9 - 159		%Rec	1	7/15/2025 10:27:40 PM

NOTES:

S - Outlying surrogate recovery observed (high bias). Sample is non-detect; result meets QC requirements.

Lab ID: 2507202-004**Collection Date:** 7/9/2025**Client Sample ID:** APES-2507-PCB04**Matrix:** Bulk

Analyses	Result	RL	Qual	Units	DF	Date Analyzed

PCBs by EPA Method 8082A

Batch ID: 48446

Analyst: CO

Aroclor 1016	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1221	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1232	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1242	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1248	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1254	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1260	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1262	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Aroclor 1268	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Total PCBs	ND	0.400		mg/Kg	1	7/15/2025 10:37:25 PM
Surr: Decachlorobiphenyl	160	36.6 - 160		%Rec	1	7/15/2025 10:37:25 PM
Surr: Tetrachloro-m-xylene	155	53.9 - 159		%Rec	1	7/15/2025 10:37:25 PM

Original

Date: 7/21/2025



Work Order: 2507202
CLIENT: EHS Alaska Inc
Project: Alpenglow ES Re-Roof

QC SUMMARY REPORT

PCBs by EPA Method 8082A

Sample ID: MB-48446	SampType: MBLK	Units: mg/Kg			Prep Date: 7/15/2025			RunNo: 101392			
Client ID: MBLKS	Batch ID: 48446				Analysis Date: 7/15/2025			SeqNo: 2112209			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0200									
Aroclor 1221	ND	0.0200									
Aroclor 1232	ND	0.0200									
Aroclor 1242	ND	0.0200									
Aroclor 1248	ND	0.0200									
Aroclor 1254	ND	0.0200									
Aroclor 1260	ND	0.0200									
Aroclor 1262	ND	0.0200									
Aroclor 1268	ND	0.0200									
Total PCBs	ND	0.0200									
Surr: Decachlorobiphenyl	260		200.0		130	39.9	158				
Surr: Tetrachloro-m-xylene	246		200.0		123	53.9	160				

Sample ID: 2507166-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 7/15/2025			RunNo: 101392		
Client ID: BATCH	Batch ID: 48446	Analysis Date: 7/15/2025						SeqNo: 2112211			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.37	0.0212	1.061	0	129	51	160				
Aroclor 1260	1.25	0.0212	1.061	0	118	51.8	160				
Surr: Decachlorobiphenyl	307		212.3		145	36.6	160				
Surr: Tetrachloro-m-xylene	282		212.3		133	53.9	159				

Sample ID: 2507166-001AMSD	SampType: MSD	Units: mg/Kg-dry				Prep Date: 7/15/2025			RunNo: 101392		
Client ID: BATCH	Batch ID: 48446	Analysis Date: 7/15/2025						SeqNo: 2112212			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.22	0.0212	1.061	0	115	51	160	1.374	11.8	30	
Aroclor 1260	1.11	0.0212	1.061	0	104	51.8	160	1.247	11.8	30	
Surr: Decachlorobiphenyl	275		212.3		129	36.6	160		0		
Surr: Tetrachloro-m-xylene	251		212.3		118	53.9	159		0		

Original

Alpenglow ES Roof Replacement and Seismic Upgrades
 Project 112006

Page 7 of 10

Section 02 26 00 – Page 69 of 92

Date: 7/21/2025



Work Order: 2507202
CLIENT: EHS Alaska Inc
Project: Alpenglow ES Re-Roof

QC SUMMARY REPORT
PCBs by EPA Method 8082A

Sample ID: LCS-48446	SampType: LCS	Units: mg/Kg				Prep Date: 7/15/2025			RunNo: 101392		
Client ID: LCSS	Batch ID: 48446					Analysis Date: 7/15/2025			SeqNo: 2112222		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.22	0.0200	1.000	0	122	53	160				
Aroclor 1260	1.12	0.0200	1.000	0	112	51.1	160				
Surr: Decachlorobiphenyl	249		200.0		124	36.6	160				
Surr: Tetrachloro-m-xylene	220		200.0		110	53.9	159				

APPENDIX C

Lead Analyzer Test Results

LEAD ANALYZER TEST RESULTS

Heuresis Pb200i, Serial No. 1770

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm ²	+/- ERROR
1	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	3	7/08/25 12:30:11	POSITIVE	1.3	0.2
2	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/08/25 12:30:19	POSITIVE	1.2	0.2
3	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/08/25 12:30:31	POSITIVE	1.2	0.2
4	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	SOLDER	METAL	INTACT	COPPER	2	7/08/25 12:35:23	NEGATIVE	0.5	0.2
5	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	SOLDER	METAL	INTACT	COPPER	2	7/08/25 12:35:41	POSITIVE	3.7	0.3
6	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	BEAM	METAL	INTACT	RED	2	7/08/25 14:16:08	NEGATIVE	0.3	0.3
7	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WALL	CMU	INTACT	OFF-WHITE	2	7/08/25 14:33:11	NEGATIVE	0.3	0.3
8	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WALL	CMU	INTACT	OFF-WHITE	1	7/08/25 15:13:10	NEGATIVE	0.2	0.3
9	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WALL	CMU	INTACT	OFF-WHITE	1	7/08/25 15:13:57	NEGATIVE	0	0.3
10	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	BATHROOM	WALL	CERAMIC	INTACT	OFF-WHITE	2	7/08/25 15:14:25	NEGATIVE	0	0.3
11	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	BATHROOM	URINAL	CERAMIC	INTACT	OFF-WHITE	2	7/08/25 15:14:50	NEGATIVE	0.1	0.3
12	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	BATHROOM	TOILET	CERAMIC	INTACT	OFF-WHITE	2	7/08/25 15:15:07	NEGATIVE	0	0.3
13	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	BATHROOM	VALVE	METAL	INTACT	BEIGE	2	7/08/25 15:21:54	NEGATIVE	0	0.3
14	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	3	7/08/25 17:12:59	POSITIVE	1.4	0.2
15	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	4	7/08/25 17:13:10	POSITIVE	1.3	0.2
16	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/08/25 17:13:20	POSITIVE	1.2	0.2
17	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/09/25 11:45:57	POSITIVE	1.2	0.2
18	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	4	7/09/25 11:46:10	POSITIVE	1.3	0.2
19	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/09/25 11:46:20	POSITIVE	1.2	0.2
20	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WALL	CMU	INTACT	OFF-WHITE	2	7/09/25 12:09:12	NEGATIVE	0.1	0.3
21	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WALL	DRYWALL	INTACT	OFF-WHITE	2	7/09/25 12:09:27	NEGATIVE	0.2	0.2
22	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	DOOR FRAME	WOOD	INTACT	VARNISH	2	7/09/25 12:09:44	NEGATIVE	0	0.2
23	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	DOOR FRAME	METAL	INTACT	PINK	2	7/09/25 12:10:03	NEGATIVE	0.1	0.3
24	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	Cabinetry	PLASTIC	INTACT	RED	2	7/09/25 12:13:41	NEGATIVE	0.2	0.3
25	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	Cabinetry	PLASTIC	INTACT	RED	2	7/09/25 12:15:37	NEGATIVE	0	0.3
26	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	TOILET	CERAMIC	INTACT	WHITE	2	7/09/25 12:18:48	NEGATIVE	0	0.3
27	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	WALL TILE	CERAMIC	INTACT	WHITE	2	7/09/25 12:19:24	NEGATIVE	0.2	0.3
28	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	DOOR	METAL	INTACT	OFF-WHITE	2	7/09/25 12:22:01	NEGATIVE	0.1	0.2
29	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	DOOR FRAME	METAL	INTACT	OFF-WHITE	2	7/09/25 12:22:13	NEGATIVE	0.2	0.3
30	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	WINDOW CASING	METAL	INTACT	BLUE	2	7/09/25 12:32:02	NEGATIVE	0.1	0.3
31	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CORRIDOR	CURB	CONCRETE	INTACT	GRAY	2	7/09/25 12:33:11	NEGATIVE	0.2	0.3
32	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	GYM	DOOR CASING	METAL	INTACT	BEIGE	2	7/09/25 12:52:09	NEGATIVE	0	0.3
33	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	GYM	DOOR CASING	METAL	INTACT	BEIGE	2	7/09/25 12:52:24	NEGATIVE	0.1	0.3
34	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	GYM	FLOOR	RUBBER	INTACT	BEIGE	2	7/09/25 12:55:52	NEGATIVE	0.1	0.3
35	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	GYM	FLOOR	RUBBER	INTACT	RED	1	7/09/25 12:56:11	NEGATIVE	0.1	0.3
36	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	GYM	FLOOR	RUBBER	INTACT	BLACK	1	7/09/25 12:56:25	NEGATIVE	0.2	0.3
37	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	ELEC ROOM	BEAM	METAL	INTACT	0	2	7/09/25 13:12:17	NEGATIVE	0	0.3
38	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	FAN ROOM	HAND RAIL	METAL	INTACT	WHITE	2	7/09/25 13:20:26	NEGATIVE	0.1	0.3
39	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	FAN ROOM	LADDER	METAL	INTACT	RED	2	7/09/25 13:21:53	NEGATIVE	0.1	0.3
40	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	FAN ROOM	LADDER	METAL	INTACT	RED	2	7/09/25 13:22:16	NEGATIVE	0.2	0.3
41	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	FAN ROOM	EQUIPMENT	METAL	INTACT	0	2	7/09/25 13:23:06	NEGATIVE	0	0.3
42	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	KITCHEN	SINK	METAL	INTACT	0	2	7/09/25 13:40:08	NEGATIVE	0.1	0.3
43	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	CABINET	PLASTIC	INTACT	BLUE	2	7/09/25 13:54:49	NEGATIVE	0.1	0.3
44	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	FIRST	CLASSROOM	DRY ERASE BOARD	PLASTIC	INTACT	WHITE	2	7/09/25 13:55:48	NEGATIVE	0.2	0.3
45	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/09/25 13:58:03	POSITIVE	1.2	0.2
46	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	5	7/09/25 13:58:16	POSITIVE	1.2	0.2
47	ALPENGLOW ELEMENTARY SCHOOL	GANDEL	-	-	CALIBRATION	WOOD	INTACT	GREEN	4	7/09/25 13:58:29	POSITIVE	1.3	0.2

Table Heading Descriptions:

LEAD ANALYZER TEST RESULTS

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm ²	+/- ERROR

Duration: This is the nominal time in "source" seconds that each sample was analyzed.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm²) or negative (NEG < 1.0 mg/cm²). Positive results are shown in bold print.

mg/cm²: This is the testing results produced by the Heuresis Pb200i instrument in milligrams of lead per square centimeter (mg/cm²). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm² or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm²) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined. <LOD indicates that the lead present was less than the limits of detection of the instrument (very little or no lead present).

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing).

Substrate: Where ceramic is shown as a substrate, lead content is typically from the glazing on the tile unless the tile is painted.

LEAD ANALYZER TEST RESULTS

Heuresis Pb200i, Serial No. 1770

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm ²	+/- ERROR
1	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 14:56:49	NEGATIVE	0.9	0.1
2	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 14:57:01	POSITIVE	1	0.1
3	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 14:57:13	POSITIVE	1	0.1
4	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	200	WALL	DRYWALL	INTACT	OFF-WHITE	2	6/23/20 15:01:17	NEGATIVE	0.1	0.2
5	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	102A	SINK	CERAMIC	INTACT	WHITE	6.35	6/23/20 15:05:27	NEGATIVE	-0.2	0.12
6	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	102A	TOILET	CERAMIC	INTACT	WHITE	5.45	6/23/20 15:05:51	NEGATIVE	-0.13	0.13
7	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	102	COUNTERTOP	FORMICA	INTACT	GRAY	5.67	6/23/20 15:06:49	NEGATIVE	0.2	0.13
8	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	102	CABINET	FORMICA	INTACT	GRAY	2.05	6/23/20 15:07:09	NEGATIVE	0.13	0.21
9	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	102	CABINET	FORMICA	INTACT	GREEN	5.5	6/23/20 15:07:26	NEGATIVE	0.09	0.13
10	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	100	COUNTERTOP	FORMICA	INTACT	GREEN	6.04	6/23/20 15:08:09	NEGATIVE	0.19	0.12
11	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	100	WINDOW CASING	METAL	INTACT	GREEN	5.62	6/23/20 15:08:41	NEGATIVE	0.09	0.13
12	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	100C	DOOR	WOOD	INTACT	VARNISH	5.68	6/23/20 15:09:17	NEGATIVE	0.06	0.13
13	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	100C	DOOR FRAME	METAL	INTACT	GREEN	5.75	6/23/20 15:09:40	NEGATIVE	0.12	0.12
14	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	100B	WALL	DRYWALL	INTACT	GRAY	5.77	6/23/20 15:11:15	NEGATIVE	0.21	0.12
15	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	106	WALL	DRYWALL	INTACT	OFF-WHITE	5.85	6/23/20 15:12:48	NEGATIVE	0.17	0.12
16	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	106A	URINAL	CERAMIC	INTACT	WHITE	5.34	6/23/20 15:13:59	NEGATIVE	0.04	0.13
17	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	106A	LOCKER	METAL	INTACT	GREEN	5.78	6/23/20 15:17:33	NEGATIVE	-0.05	0.12
18	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	WALL	PLASTER	INTACT	BEIGE	5.48	6/23/20 15:19:35	NEGATIVE	-0.14	0.13
19	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	1601	WALL	DRYWALL	INTACT	OFF-WHITE	5.67	6/23/20 15:21:36	NEGATIVE	0.11	0.13
20	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	1601	WALL	CMU	INTACT	OFF-WHITE	5.99	6/23/20 15:22:00	NEGATIVE	0.28	0.12
21	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	WALL	CMU	INTACT	GRAY	5.56	6/23/20 15:31:16	NEGATIVE	0.06	0.13
22	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	WALL	CMU	INTACT	GRAY	5.43	6/23/20 15:31:35	NEGATIVE	0.13	0.13
23	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	WALL	CMU	INTACT	RED	5.64	6/23/20 15:32:07	NEGATIVE	0.17	0.13
24	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	301E	WALL	PLASTIC	INTACT	WHITE	5.69	6/23/20 15:35:39	NEGATIVE	0.16	0.13
25	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	DOOR	METAL	INTACT	BEIGE	5.6	6/23/20 15:36:17	NEGATIVE	0.11	0.13
26	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	DOOR FRAME	METAL	INTACT	BEIGE	5.72	6/23/20 15:36:37	NEGATIVE	0.1	0.13
27	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	DOOR FRAME	METAL	INTACT	WHITE	5.54	6/23/20 15:40:41	NEGATIVE	0.12	0.13
28	ALPENGLOW ELEMENTARY SCHOOL	OTTOSEN	FIRST	EXTERIOR	DOOR	METAL	INTACT	WHITE	5.51	6/23/20 15:41:01	NEGATIVE	0.11	0.13
29	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 15:43:41	POSITIVE	1	0.1
30	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 15:43:52	POSITIVE	1	0.1
31	APENGLOW ELEMENTARY SCHOOL	OTTOSEN	-	-	CALIBRATION CK	-	-	GREEN	5	6/23/20 15:44:04	POSITIVE	1	0.1

Table Heading Descriptions:

Duration: This is the nominal time in "source" seconds that each sample was analyzed.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm²) or negative (NEG < 1.0 mg/cm²). Positive results are shown in bold print.

mg/cm²: This is the testing results produced by the Heuresis Pb200i instrument in milligrams of lead per square centimeter (mg/cm²). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm² or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm²) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined. <LOD indicates that the lead present was less than the limits of detection of the instrument (very little or no lead present).

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing).

Substrate: Where ceramic is shown as a substrate, lead content is typically from the glazing on the tile unless the tile is painted.

LEAD BASED PAINT SCREENING SUMMARY

NITON XLp-300A, Serial No. 81530

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	DEPTH INDEX	RESULTS		
												LBP	mg/cm ²	+/- ERROR
1	ALPENGLOW ES	OTTOSEN	-	-	SHUTTER CAL	-	-	-	86.36	9/26/2016 10:09	-	-	3.13	0
2	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.52	9/26/2016 10:15	1.07	Positive	1	0.1
3	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.57	9/26/2016 10:16	2.67	Positive	1.1	0.1
4	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.52	9/26/2016 10:16	1.12	Positive	1.1	0.1
5	ALPENGLOW ES	OTTOSEN	SECOND	FAN ROOM	WALL	DRYWALL	INTACT	WHITE	3.49	9/26/2016 10:26	1	Negative	0	0.02
6	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	BOILER	METAL	INTACT	GRAY	3.51	9/26/2016 10:27	1	Negative	0	0.02
7	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	BOILER BURNER	METAL	INTACT	BLUE	3.5	9/26/2016 10:28	1.28	Negative	0	0.02
8	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	FLOAT VALVE	METAL	INTACT	BLACK	3.5	9/26/2016 10:30	1	Negative	0	0.02
9	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	CIRCULATION PUMP	METAL	INTACT	RED	3.84	9/26/2016 10:30	1.48	Negative	0	0.02
10	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	FLANGE	METAL	INTACT	BLACK	4.53	9/26/2016 10:32	1	Negative	0.16	0.05
11	ALPENGLOW ES	OTTOSEN	VOID	VOID	VOID	VOID	VOID	VOID	VOID	9/26/2016 10:33	VOID	VOID	VOID	VOID
12	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	VALVE	METAL	INTACT	GRAY	3.49	9/26/2016 10:33	1	Negative	0	0.02
13	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	VALVE	METAL	INTACT	ORANGE	3.82	9/26/2016 10:34	3.69	Negative	0.01	0.02
14	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	HANDWHEEL	METAL	INTACT	BLUE	4.88	9/26/2016 10:35	8.61	Negative	0.08	0.89
15	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	VALVE	METAL	INTACT	RED	2.79	9/26/2016 10:36	1.68	Negative	0.01	0.02
16	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	SUPPORT	METAL	INTACT	GREEN	4.53	9/26/2016 10:36	3.92	Negative	0.01	0.03
17	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	TANK	METAL	INTACT	RED	4.55	9/26/2016 10:37	1	Negative	0	0.02
18	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	WALL	DRYWALL	INTACT	WHITE	4.53	9/26/2016 10:38	1	Negative	0	0.02
19	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	PIPE	METAL	INTACT	BLACK	3.5	9/26/2016 10:39	1	Negative	0	0.02
20	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	DOOR	METAL	INTACT	OFF-WHITE	1.74	9/26/2016 10:40	1.4	Negative	0.01	0.03
21	ALPENGLOW ES	OTTOSEN	FIRST	BOILER ROOM	DOOR CASING	METAL	INTACT	OFF-WHITE	1.75	9/26/2016 10:41	1	Negative	0	0.02
22	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.53	9/26/2016 10:41	1.07	Positive	1	0.1
23	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.55	9/26/2016 10:42	2.65	Positive	1.1	0.1
24	ALPENGLOW ES	OTTOSEN	-	-	CALIBRATION CK	-	-	RED	20.2	9/26/2016 10:43	1.08	Positive	1.1	0.1

Table Heading Descriptions:

Duration: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm²), inconclusive (INC) or negative (NEG <1.0 mg/cm²). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided, but are available. Positive results are shown in bold print.

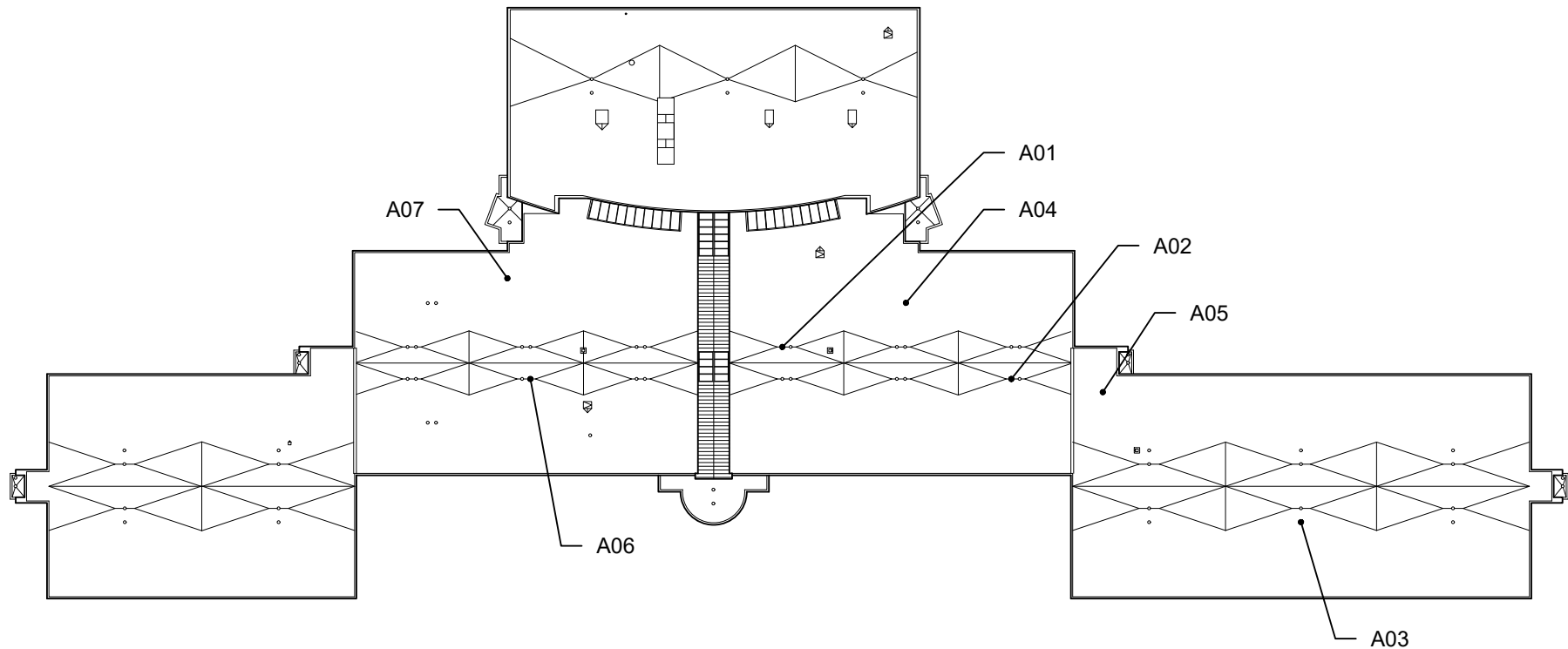
mg/cm²: This is the testing results produced by the NITON XLp-300A instrument in milligrams of lead per square centimeter (mg/cm²). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm² or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm²) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined. <LOD indicates that the lead present was less than the limits of detection of the instrument (very little or no lead present).

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g., operator moved analyzer while testing).

Substrate: Where ceramic is shown as a substrate, lead content is typically from the glazing on the tile unless the tile is painted.

APPENDIX D

Drawings of Sample Locations



LEGEND

- AXX ASBESTOS TEST LOCATION
- AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS

REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL SAMPLES HAVE APES-2508- PREFIX.

1
C-2

ROOF PLAN
NTS



ANCHORAGE
SCHOOL
DISTRICT

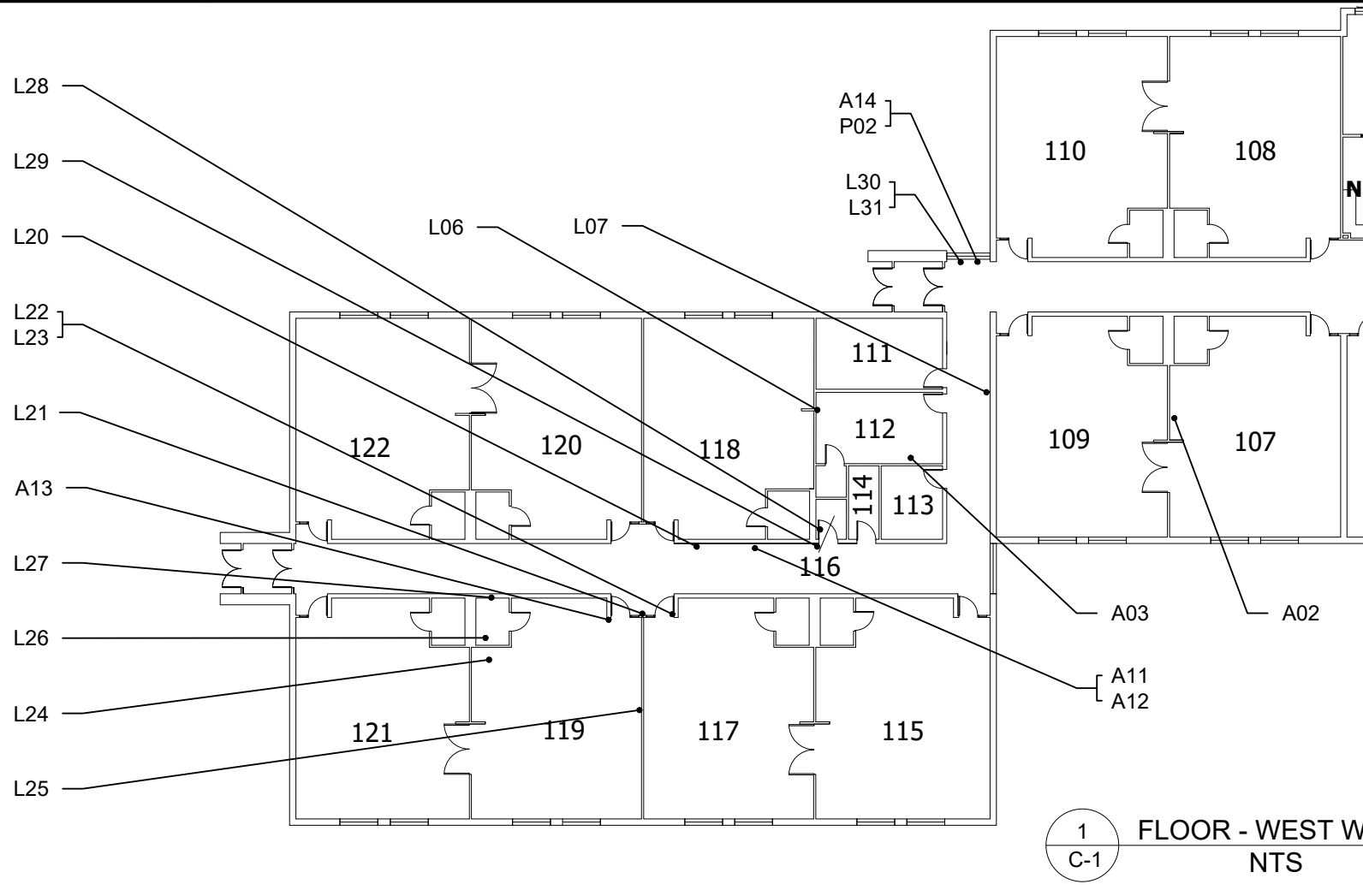
ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALASKA
ASBESTOS SAMPLE LOCATIONS



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FILE #: 8205-SL	



LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CONTAINING ≥ 1.0 mg/cm² OF LEAD
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

LEGEND

- PXX PCB TEST LOCATION
 - PXX LAB TEST RESULTS POSITIVE FOR PCBs
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.
ALL SAMPLES HAVE APES2507- PREFIX.

LEGEND

- AXX ASBESTOS TEST LOCATION
 - AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL
SAMPLES HAVE APES2507- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ES, EAGLE RIVER
ASBESTOS, LEAD, & PCB
SAMPLE LOCATIONS



EHS ALASKA
INCORPORATED

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CHECK: RAF

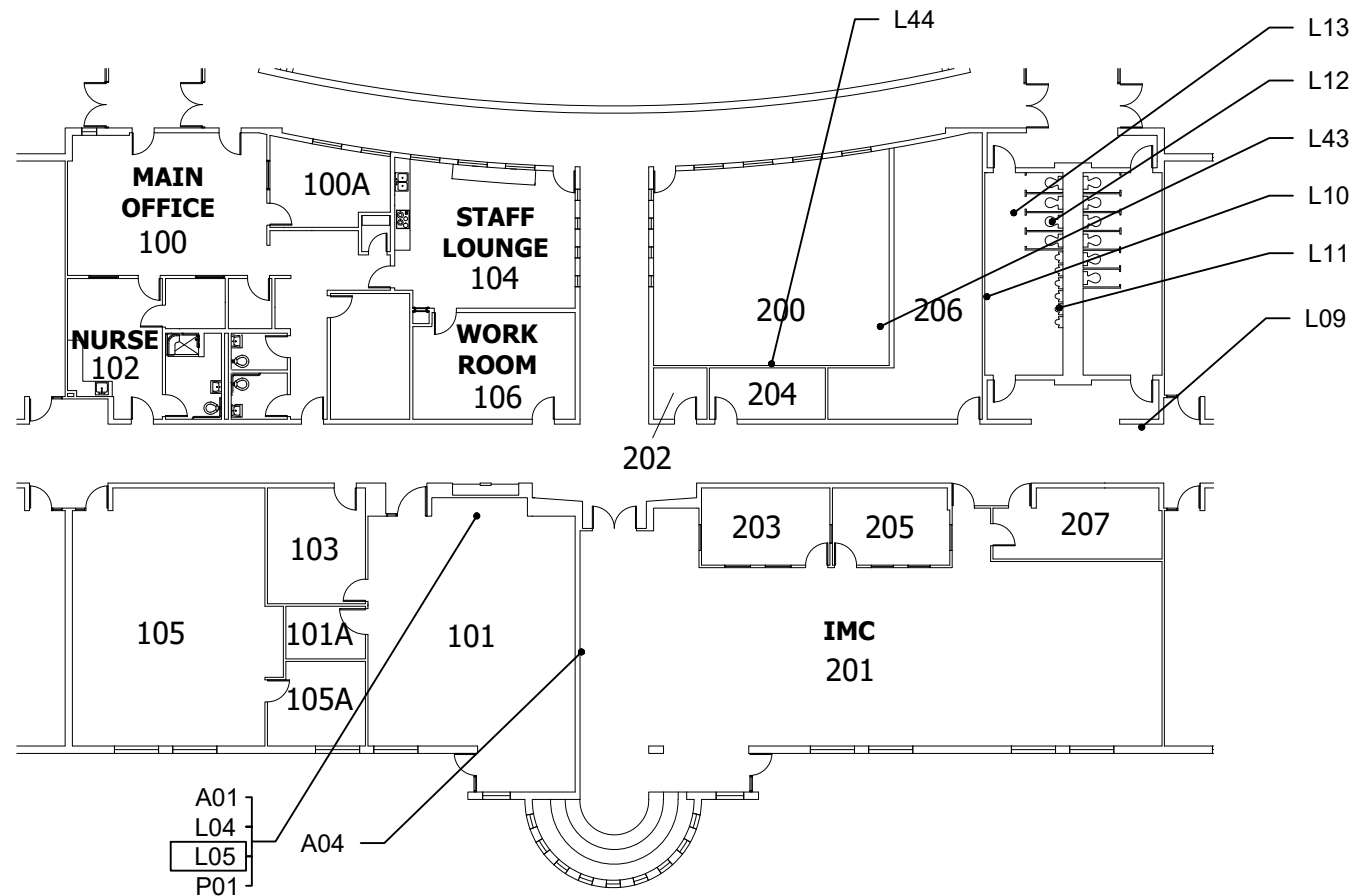
DATE:
07/8-9/2025

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C-1



1
C-2

FLOOR - SOUTH
NTS



LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CONTAINING ≥ 1.0 mg/cm² OF LEAD
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

LEGEND

- PXX PCB TEST LOCATION
 - PXX LAB TEST RESULTS POSITIVE FOR PCBs
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.
ALL SAMPLES HAVE APES2507- PREFIX.

LEGEND

- AXX ASBESTOS TEST LOCATION
 - AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL
SAMPLES HAVE APES2507- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

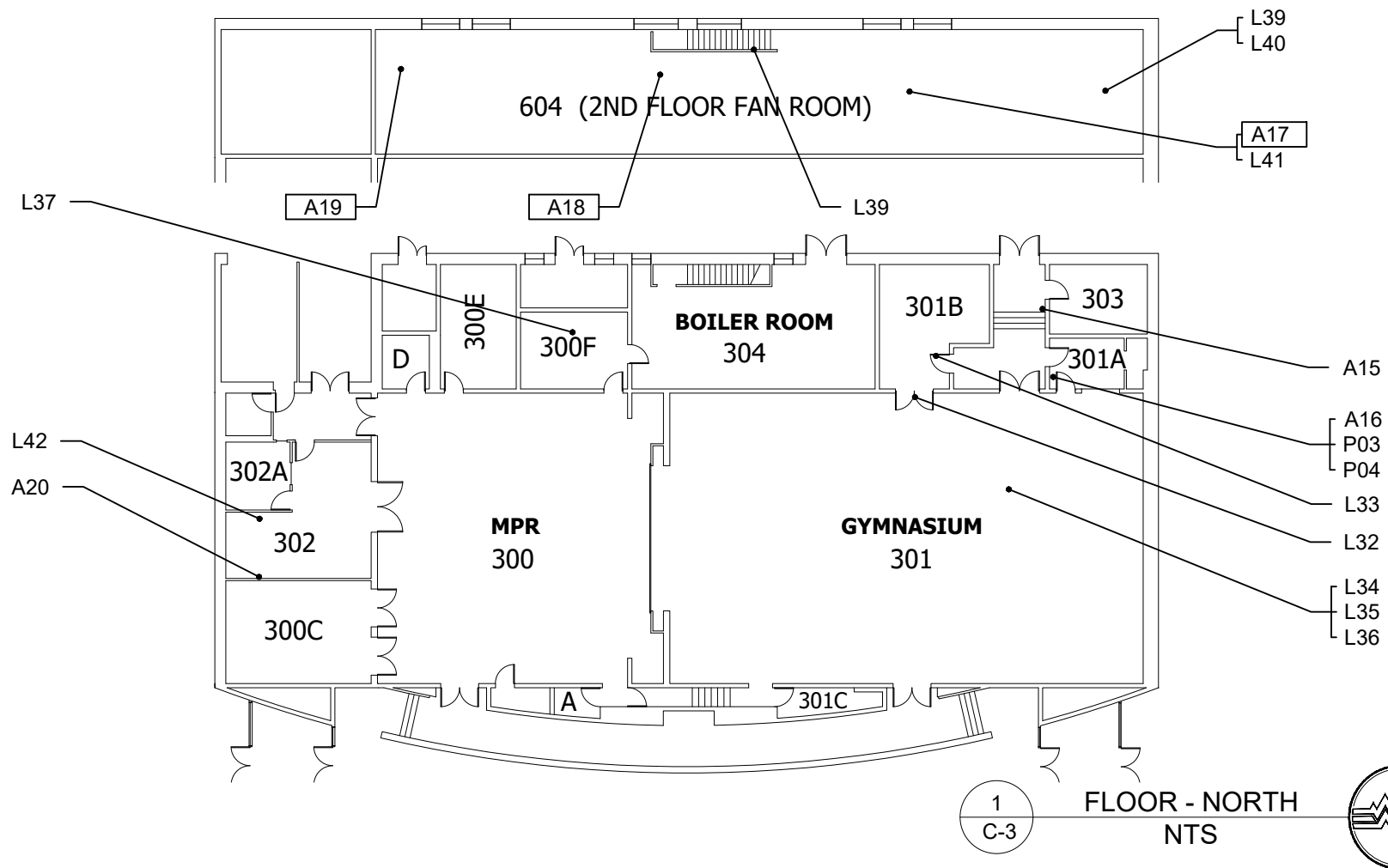
ALPENGLOW ES, EAGLE RIVER
ASBESTOS, LEAD, & PCB
SAMPLE LOCATIONS



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CHECK: RAF	DWG.NO: C-2
FILE #: 8205-SL	



LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CONTAINING ≥ 1.0 mg/cm² OF LEAD
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

LEGEND

- PXX PCB TEST LOCATION
 - PXX LAB TEST RESULTS POSITIVE FOR PCBs
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.
ALL SAMPLES HAVE APES2507- PREFIX.

LEGEND

- AXX ASBESTOS TEST LOCATION
 - AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL
SAMPLES HAVE APES2507- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ES, EAGLE RIVER
ASBESTOS, LEAD, & PCB
SAMPLE LOCATIONS



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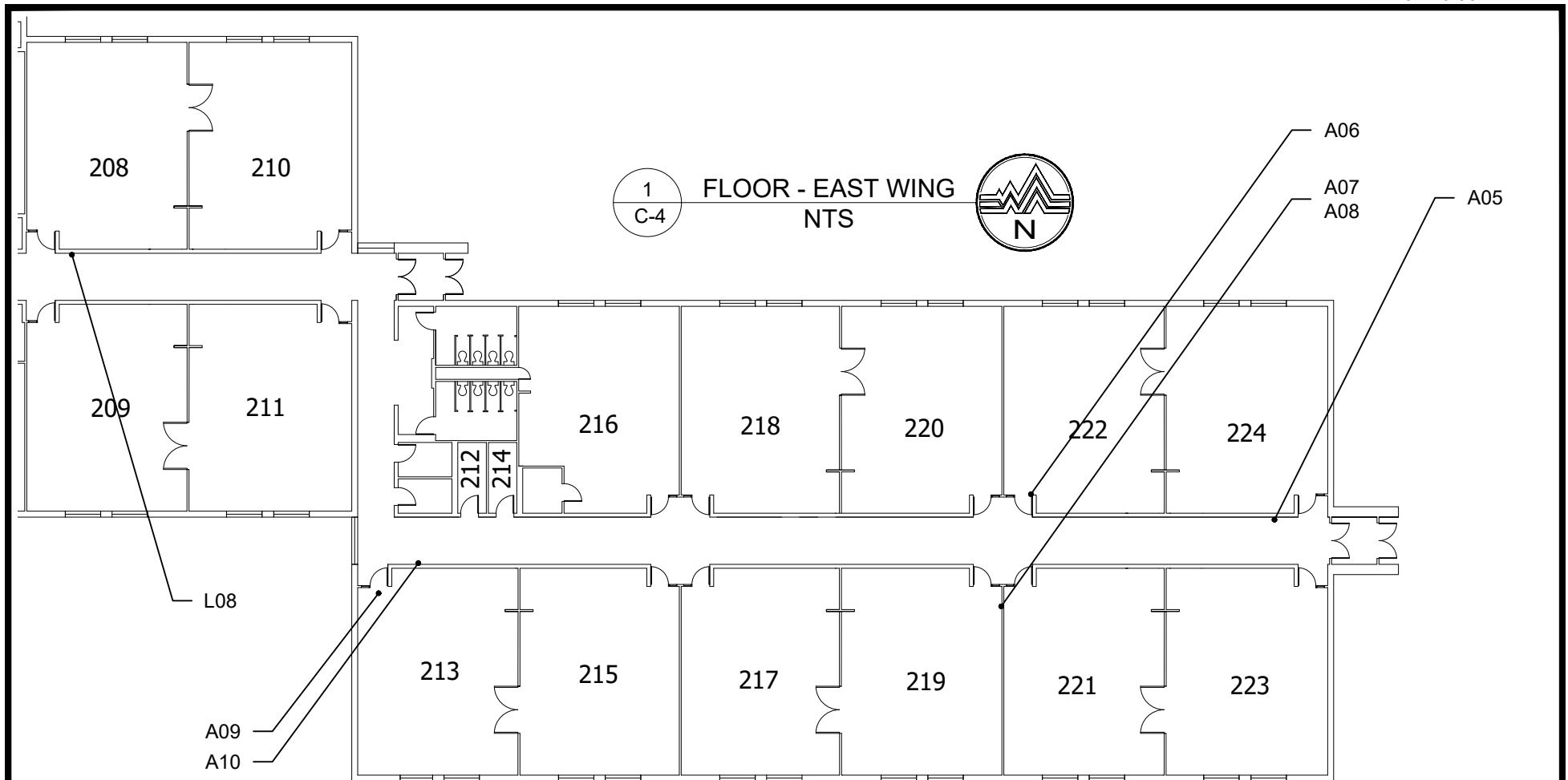
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DATE:
07/8-9/2025

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C-3



LEGEND

— LXX LEAD TEST LOCATION
— LXX LEAD TEST CONTAINING ≥ 1.0 mg/cm² OF LEAD
REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

LEGEND

— PXX PCB TEST LOCATION
— PXX LAB TEST RESULTS POSITIVE FOR PCBs
REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.
ALL SAMPLES HAVE APES2507- PREFIX.

LEGEND

— AXX ASBESTOS TEST LOCATION
— AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL
SAMPLES HAVE APES2507- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

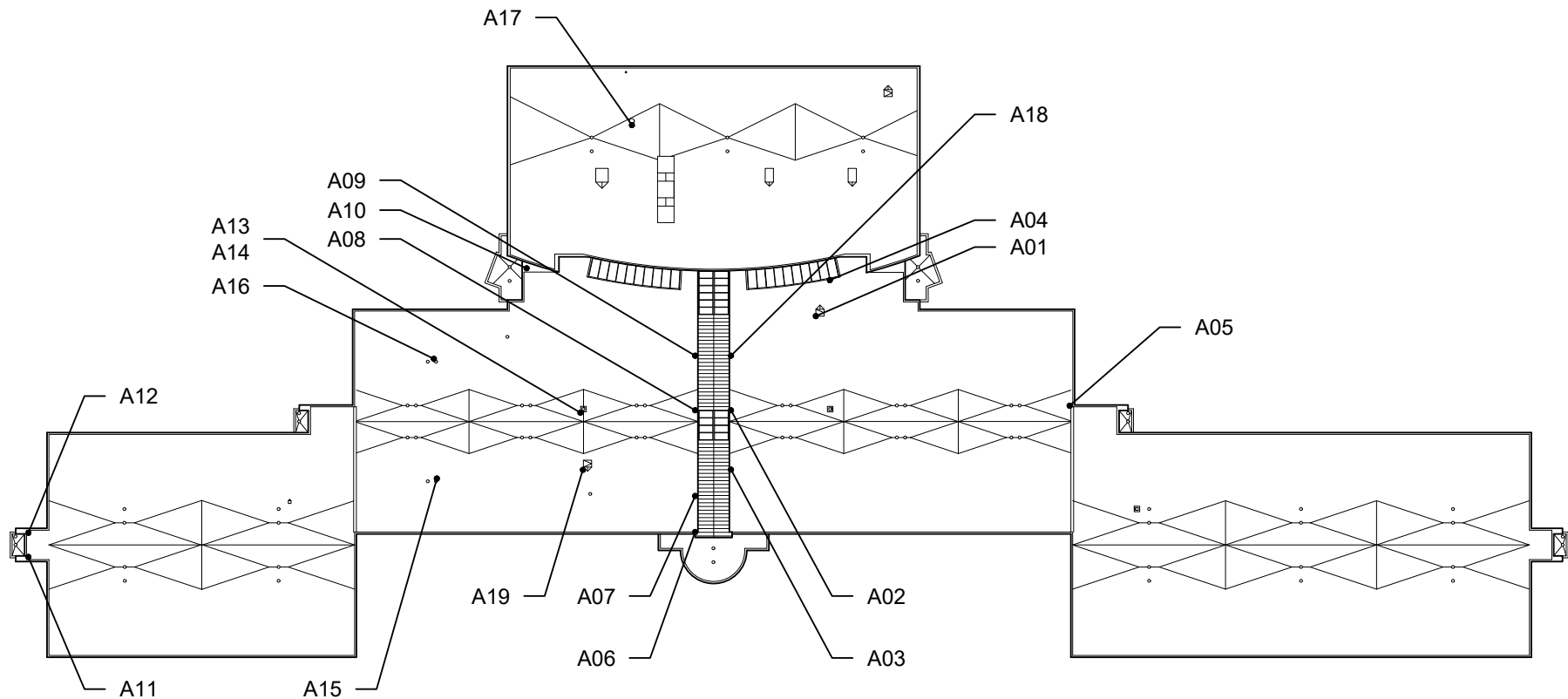
ALPENGLOW ES, EAGLE RIVER
ASBESTOS, LEAD, & PCB
SAMPLE LOCATIONS



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FILE #: 8205-SL	



1
C-1

ROOF PLAN
NTS



LEGEND

- AXX ASBESTOS TEST LOCATION
- AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS

REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL SAMPLES HAVE APES-2504- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

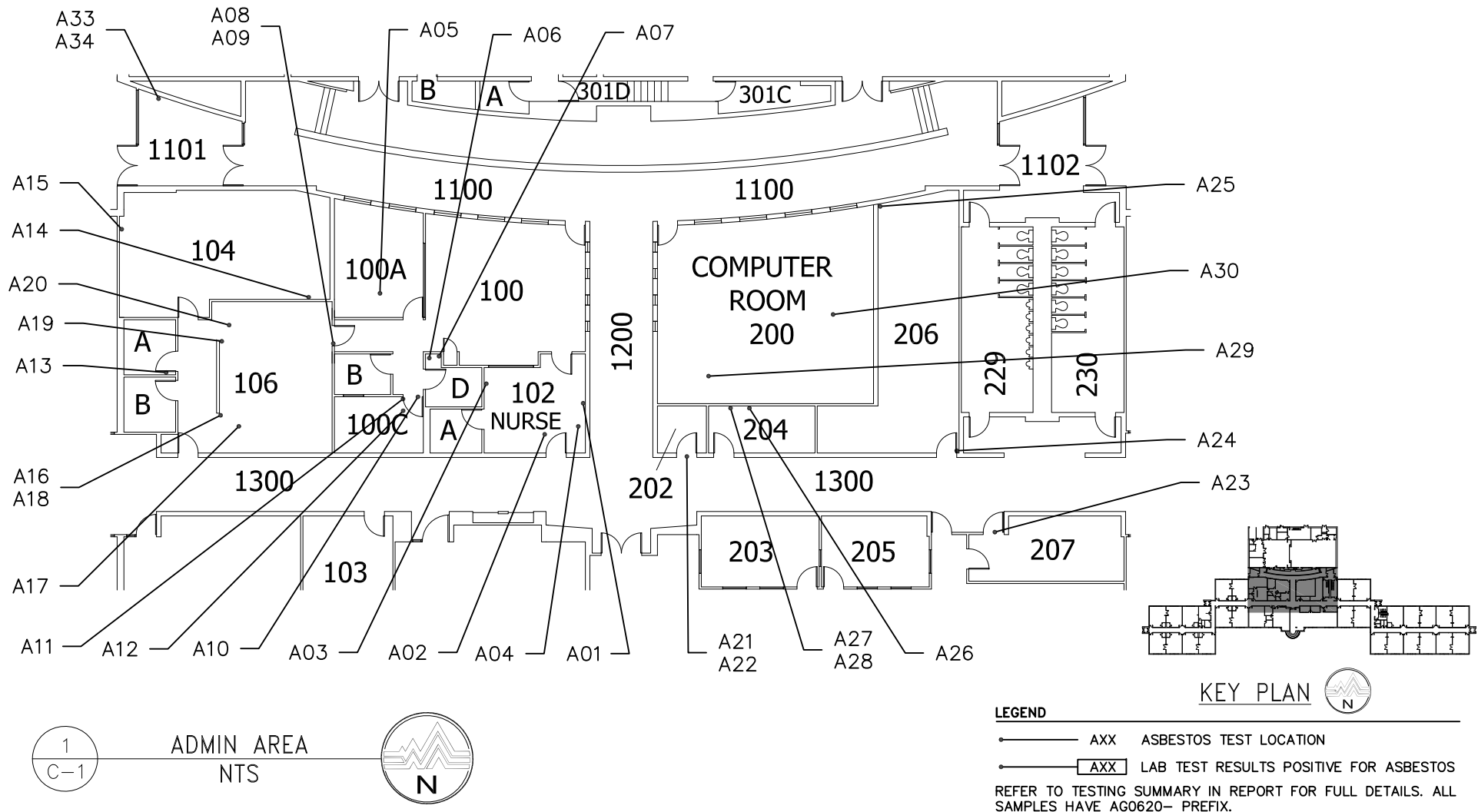
ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALASKA
ASBESTOS SAMPLE LOCATIONS



EHS ALASKA
INCORPORATED

ENGINEERING, HEALTH & SAFETY CONSULTANTS

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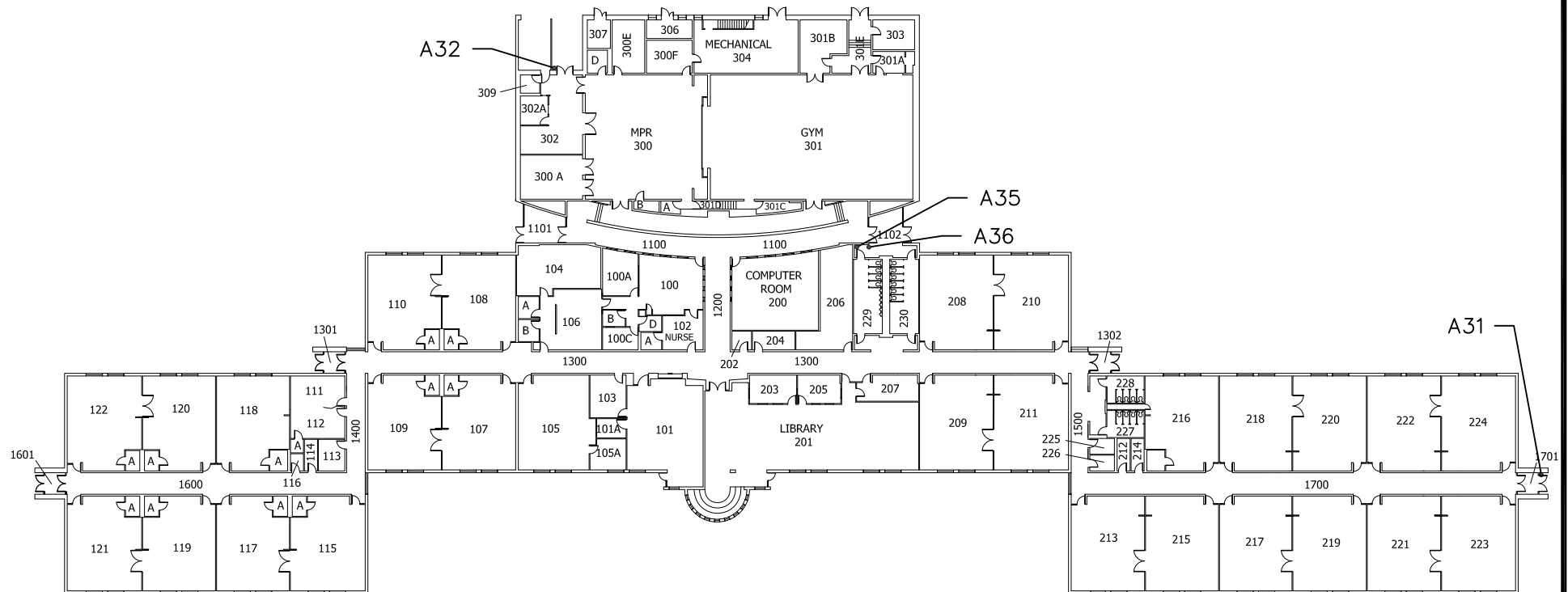


ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 06/23/2020
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FILE #: 7752-05-SL	DWG.NO: C-1



1
C-2

OVERALL PLAN
NTS



LEGEND

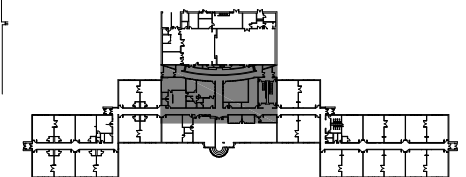
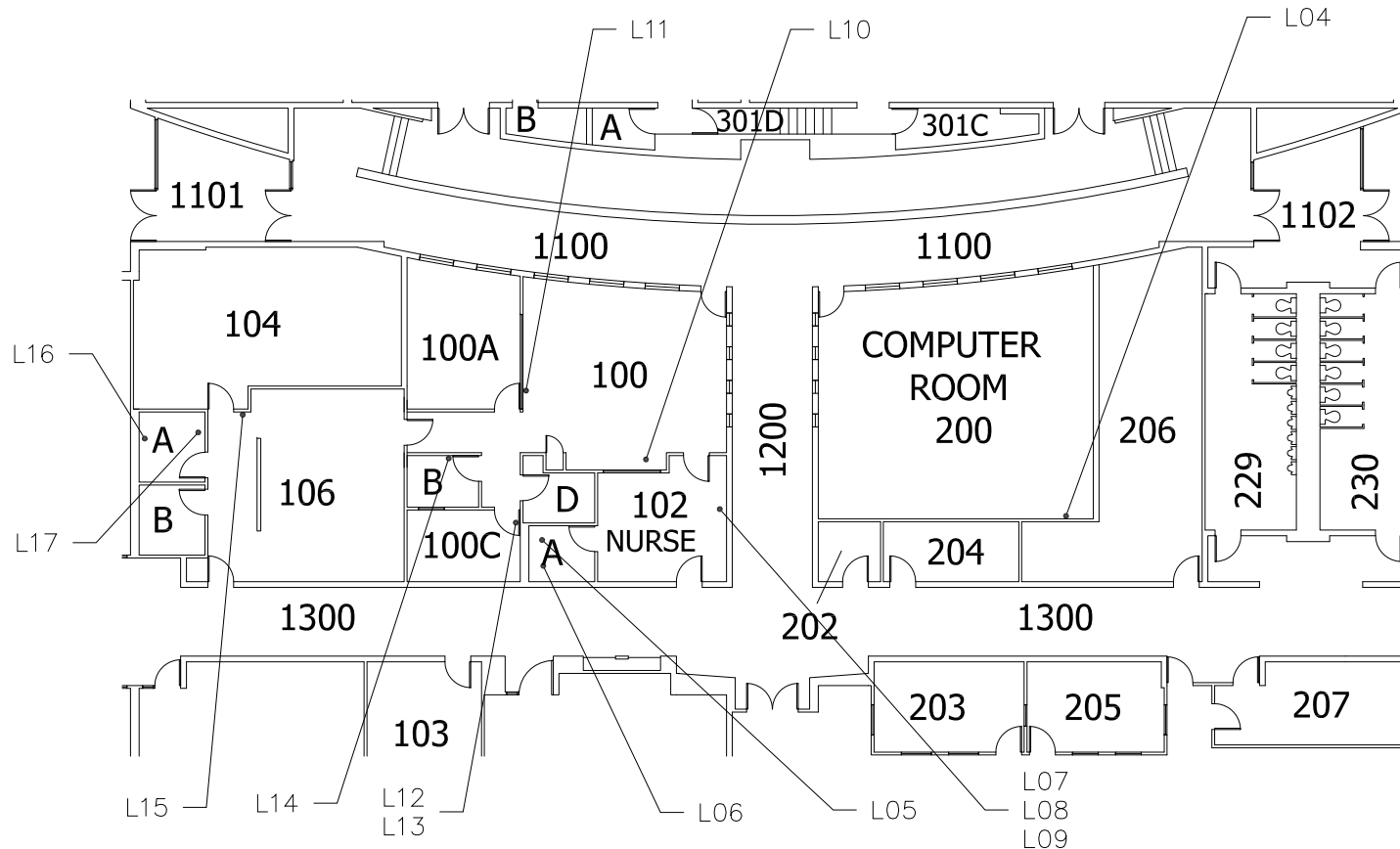
- AXX ASBESTOS TEST LOCATION
 - AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL SAMPLES HAVE AG0620- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 06/23/2020
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FILE #: 7752-05-SL	DWG.NO: C-2



KEY PLAN



LEGEND

- LXX LEAD TEST LOCATION
 - LXXX LEAD TEST CLASSIFIED AS LEAD BASED PAINT
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.



1
C-3

ADMIN AREA
NTS



ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
LEAD SAMPLE LOCATIONS



EHS ALASKA
INCORPORATED

ENGINEERING, HEALTH & SAFETY CONSULTANTS

DRAWN: CTO

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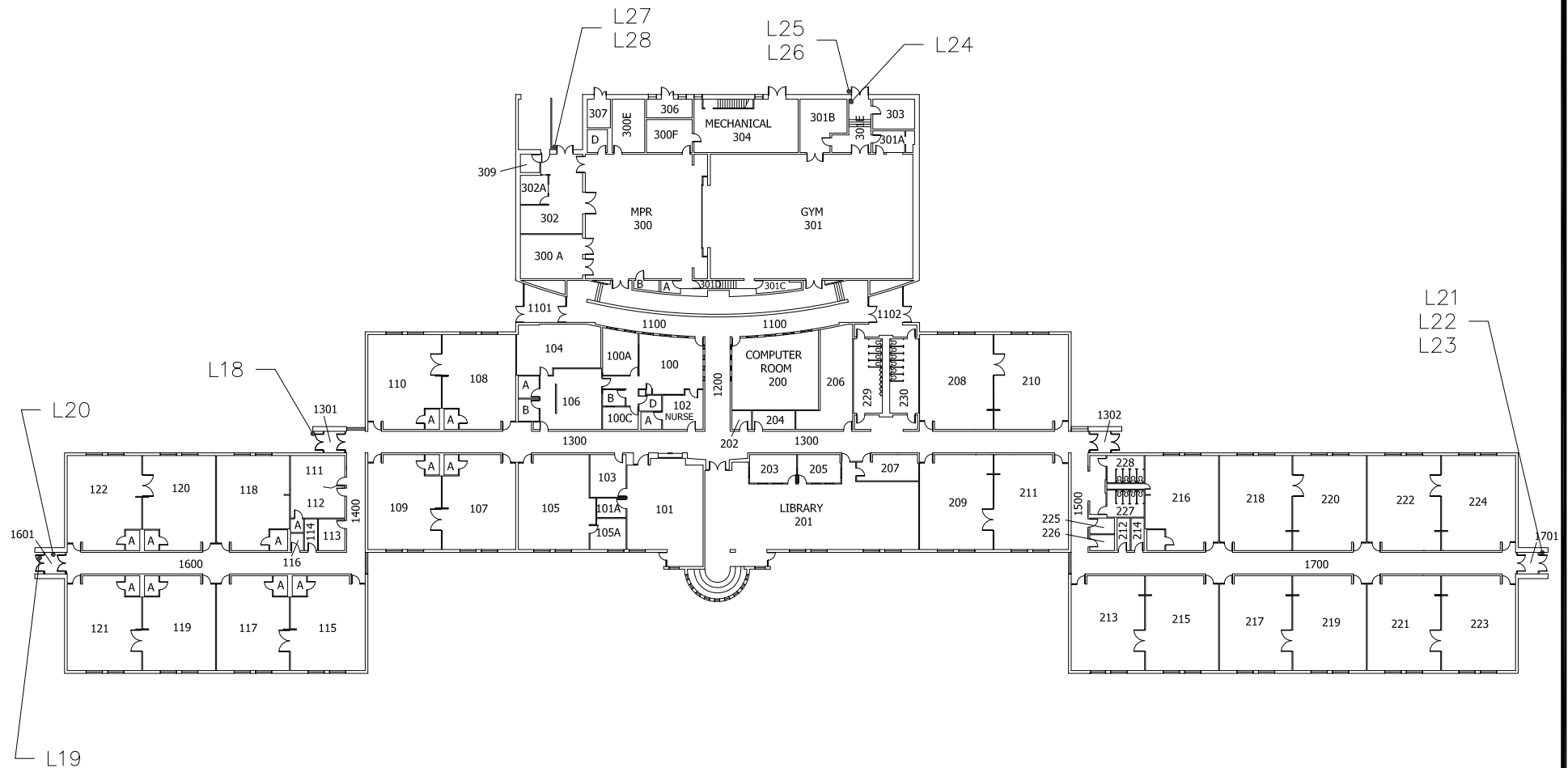
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DATE:

06/23/2020

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C-3

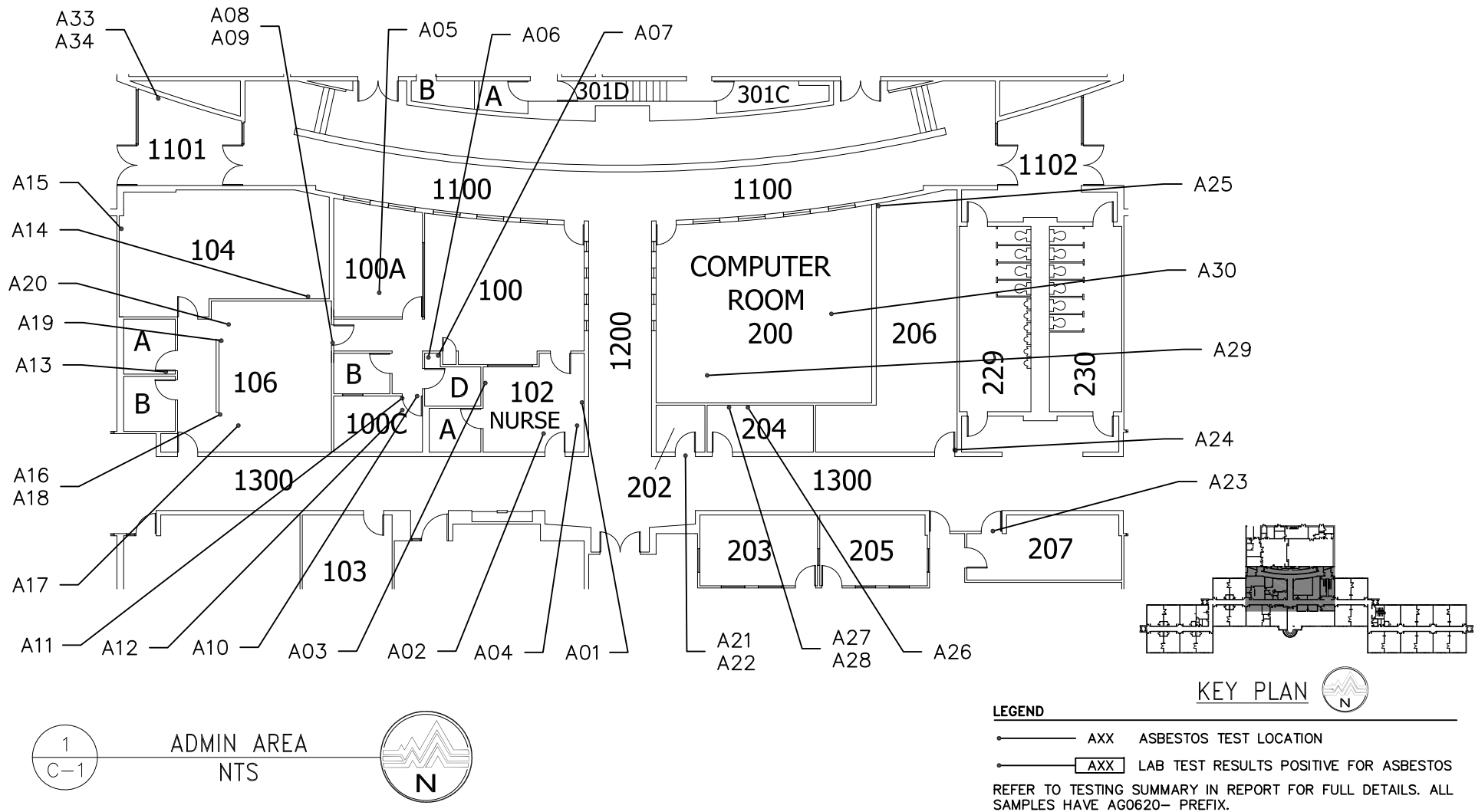


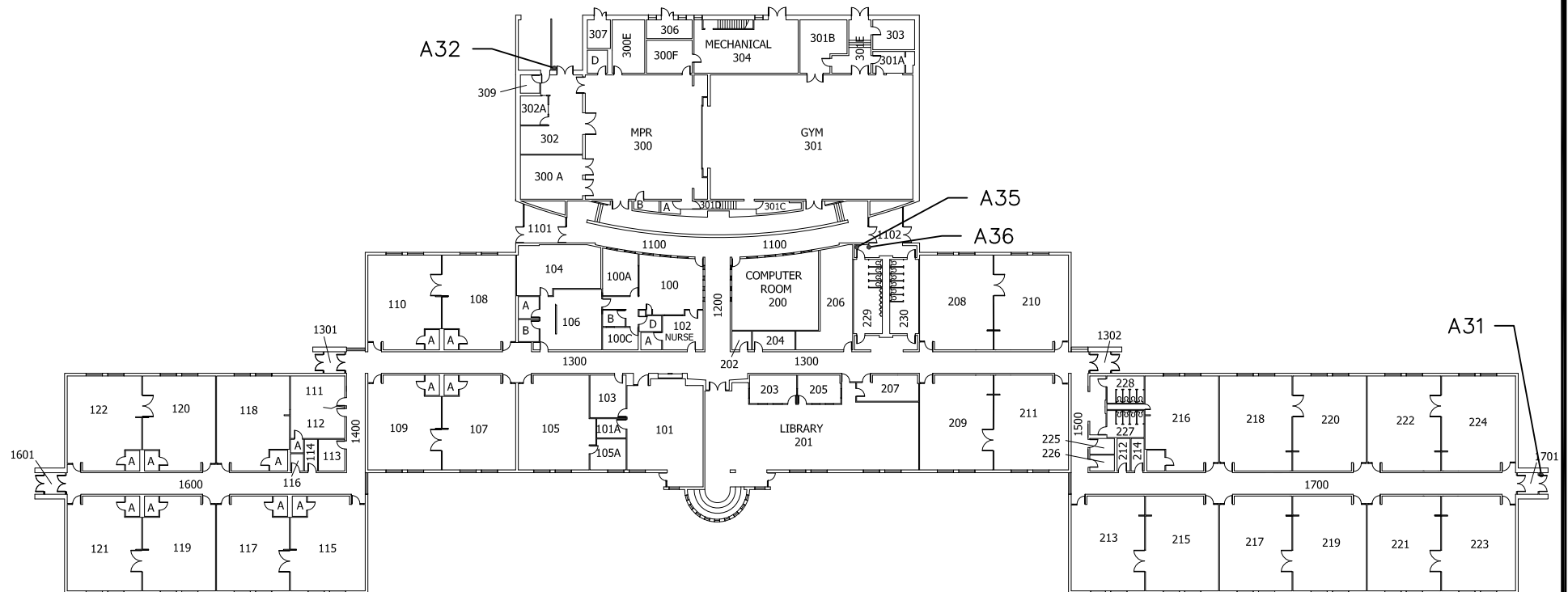
LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CLASSIFIED AS LEAD BASED PAINT
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

1
C-4OVERALL PLAN
NTSANCHORAGE
SCHOOL
DISTRICTALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
LEAD SAMPLE LOCATIONS

DRAWN: CTO	DATE: 06/23/2020
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FILE #: 7752-05-SL	C-4





1
C-2

OVERALL PLAN
NTS



LEGEND

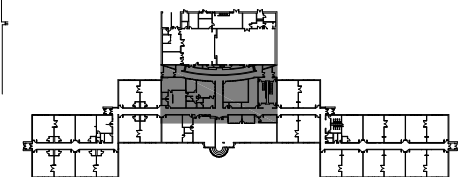
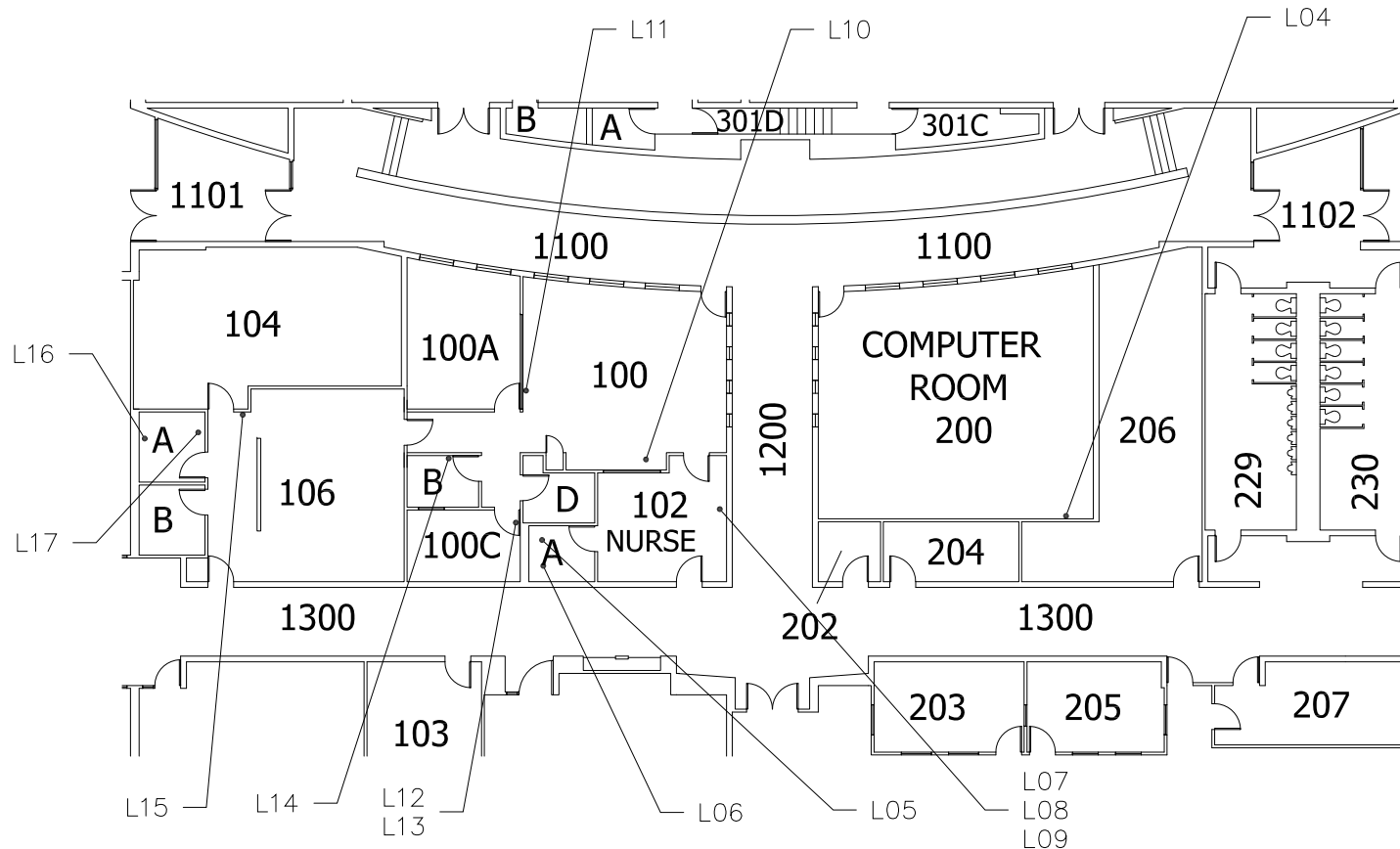
- AXX ASBESTOS TEST LOCATION
 - AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS. ALL SAMPLES HAVE AG0620- PREFIX.

ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 06/23/2020
CHECK: RAF	
FILE #: 7752-05-SL	DWG.NO: C-2



KEY PLAN



LEGEND

- LXX LEAD TEST LOCATION
 - LXX LEAD TEST CLASSIFIED AS LEAD BASED PAINT
- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

1
C-3ADMIN AREA
NTSANCHORAGE
SCHOOL
DISTRICTALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
LEAD SAMPLE LOCATIONS**EHS ALASKA**
INCORPORATED

ENGINEERING, HEALTH & SAFETY CONSULTANTS

DRAWN: CTO

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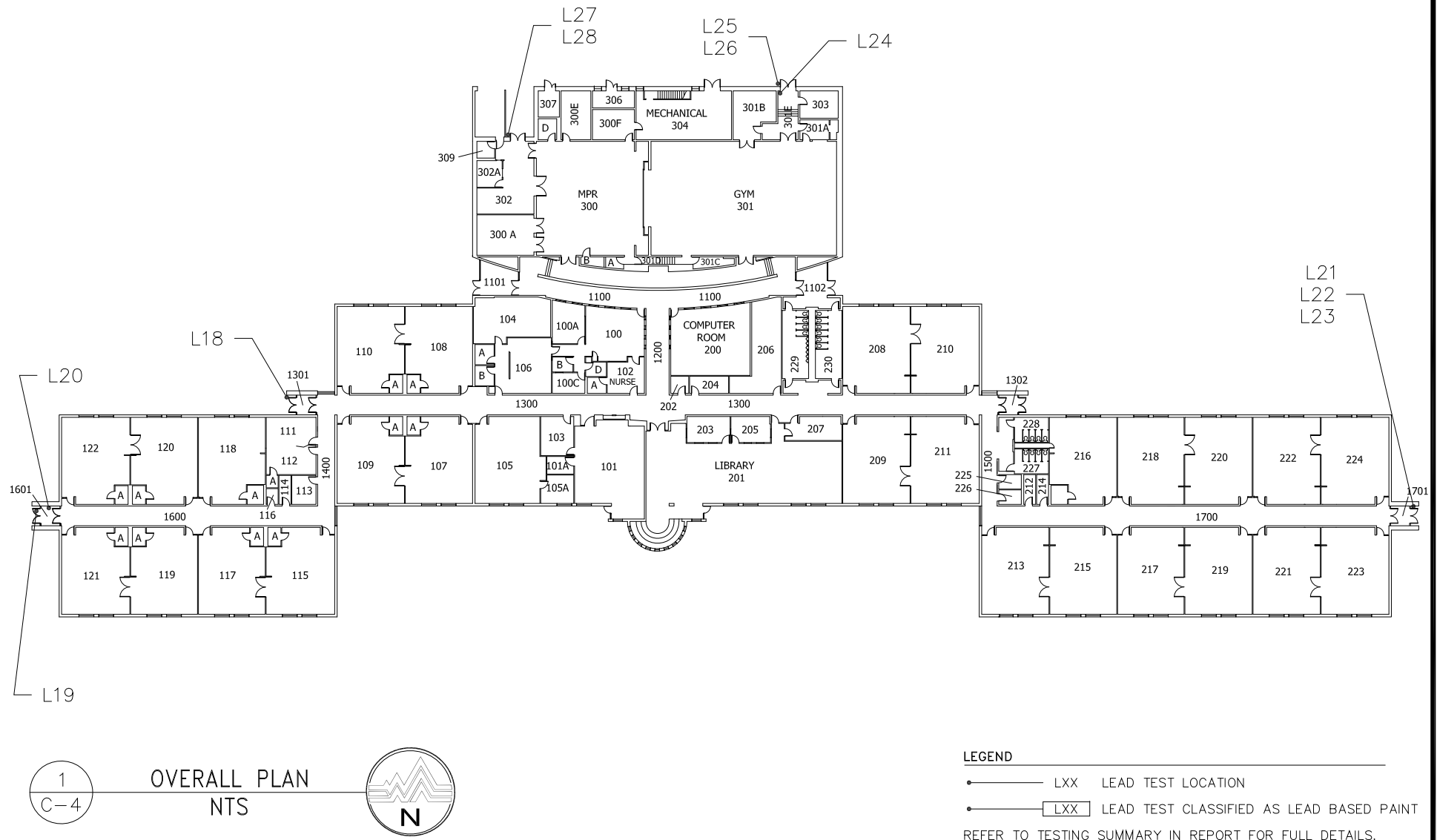
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06/23/2020

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C-3

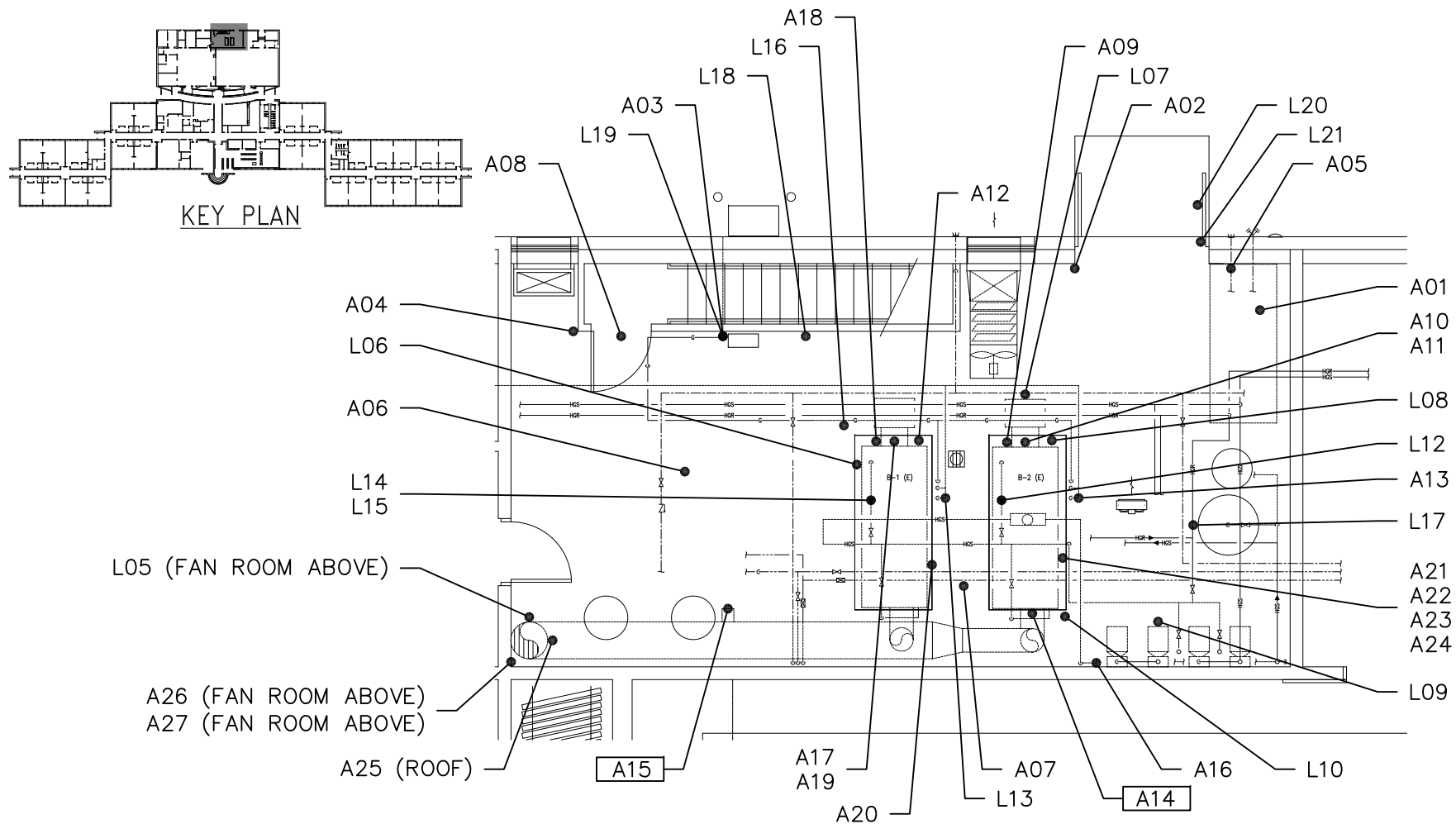


ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALAKSA
LEAD SAMPLE LOCATIONS



DRAWN: CTO	DATE: 06/23/2020
CHECK: RAF	DWG.NO:
FILE #: 7752-05-SL	C-4



ANCHORAGE
SCHOOL
DISTRICT

ALPENGLOW ELEMENTARY SCHOOL
EAGLE RIVER, ALASKA
ASBESTOS & LEAD SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/26/2016
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END OF SECTION

DEMOLITION

PART 1 - GENERAL

1.01 NOTIFICATIONS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 DESCRIPTION OF WORK

- A. Section Includes:
 - 1. Selective demolition of building elements for roof alteration purposes. The demolition work is to be sequenced with the scope of work to be accomplished to minimize weather related damage to the building structure, finishes, building systems and contents.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2009.

1.04 SUBMITTALS

- A. See Section 01300 - Submittals, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Areas for temporary construction and field offices.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.

PART 2 - PRODUCTS

2.01 BUILDING AND SITE IMPROVEMENTS PROTECTION

- A. Protect lawns, sidewalks and plantings from wheeled traffic. Do not allow debris from roof to fall on unprotected surface. Protect exterior building finishes and surface mounted fixtures from soiling, abrasion, impact damage, adhesives and mastics from roof construction work

PART 3 - EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Use of explosives is not permitted.
 - 4. Provide, erect, and maintain temporary barriers, fall protection and security devices.
 - 5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 6. Do not close or obstruct roadways or sidewalks without permit.
 - 7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Do not begin removal until built elements to be salvaged or relocated have been removed.
- D. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.
 - 4. Do not exceed live load factors indicated in the structural drawings when stockpiling debris or new materials on the roof.
- E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- F. If hazardous materials are discovered during removal operations, stop work and notify Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- G. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

3.02 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt roof mounted utilities (including radio tower communication lines and tower navigation hazard lighting power) without permit from authorities having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems or security monitoring systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove roof top exposed piping, valves, meters, equipment, and supports, of disconnected and abandoned utilities.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.

1. Verify that construction and utility arrangements are as shown.
 2. Report discrepancies to Owner before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water damage.
- D. Remove existing work as indicated and as required to accomplish new work.
1. Remove items indicated on drawings.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications, and Security): Remove existing systems and equipment as indicated.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.
 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Protect existing finishes to remain during demolition.
 4. Repair adjacent construction and finishes and site features damaged during removal work.
 5. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Promptly clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

HAZARDOUS MATERIALS – SUMMARY OF REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The hazards abatement portion of this project includes the disturbance and/or removal and disposal of lead-containing materials in the portions of the building being renovated. The Contractor shall remove or disturb hazardous materials as coordinated with other trades, as specified and/or indicated on the drawings and as required to complete the work. Refer to the Contractor's approved work plan for hazardous materials removal, disturbance and disposal procedures.
- B. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 ASBESTOS-CONTAINING MATERIALS

- A. No asbestos-containing materials are anticipated to be disturbed by this project as outlined in Section 02 26 00 – Hazardous Materials Assessment. Other materials may actually contain asbestos, such as recycled materials produced from contaminated feedstocks, unintentional or intentional addition of asbestos to products sourced from foreign countries, use of older stored materials, reuse of materials from other buildings, and other unique circumstances. The contractor may choose to sample materials in areas outside of the main area of work if necessary to disturb materials which were not sampled by this survey. Refer to Section 02 26 00 – Hazardous Materials Assessment for more information.
- B. The following asbestos-containing materials are known or assumed to be present, BUT are NOT likely to be disturbed by this project.
 - 1. Ventilation system duct sealants (found in pliable grey sealants at rectangular metal duct seams on air handling units in the mezzanine mechanical room, confirmed asbestos-containing).
 - 2. Flange gaskets and valve packing (assumed asbestos-containing).
- C. The following materials have been found to contain asbestos in previous surveys, or were assumed to contain asbestos in previous reports, but have been removed from the school in their entirety according to project documents and field observations and are not discussed further in this report.
 - 1. Boiler stack rope gaskets (confirmed asbestos-containing).
 - a. Removed during the 2016 Boiler Replacement Project.
 - 2. Concealed boiler gaskets and sealants (assumed asbestos-containing).
 - a. Removed during the 2016 Boiler Replacement Project.

1.03 LEAD-CONTAINING MATERIALS

- A. The following lead-containing materials are known or assumed to be present in the project areas and may be disturbed by this project. The disturbance of lead-containing materials (not just lead-based paint) is subject to compliance with OSHA regulations under 29 CFR 1926.62. The Contractor may conduct testing of painted or other materials to determine the lead content. At least 24 hour notice to the Owner shall be submitted prior to any lead testing.
1. Lead caulking in bell and spigot pipe joints throughout.
 2. Painted interior and exterior surfaces.
 3. Lead-containing dust in and on architectural, structural, mechanical, and electrical components throughout.
- B. The following lead-containing materials are known or assumed to be present in the building BUT are NOT likely to be disturbed by this project. Refer to Section 02 26 00 – Hazardous Materials Assessment for more information.
1. Lead-acid batteries for exit and emergency lights, and other equipment throughout.
 2. Lead in pipe solder at copper pipe fittings throughout.
 3. Painted windows, doors and frames.
 4. Painted structural and miscellaneous steel throughout.
 5. Painted mechanical and electrical equipment throughout.

1.04 CHEMICAL HAZARDS

- A. The following chemicals are known or assumed to be present in the building and are unlikely to be disturbed by this project. Refer to Section 02 26 00 – Hazardous Materials Assessment for more information.
1. Mercury-containing fluorescent light tubes.
 2. High Intensity Discharge (HID) light fixtures with mercury-containing bulbs.
 3. Self-illuminating exit signs with radioactive components.
 4. Heating system components with glycol.
 5. Refrigeration equipment with ozone depleting substances (ODS).
 6. Poured rubber flooring assumed to be classified as a hazardous waste for mercury.

1.05 SUBMITTALS

- A. Pre-Work Submittal: No formal pre-work submittal is required, but Contractor to submit a single page certification, signed by the Contractor's Competent Person, that the work of the contract will comply with all federal, state and local requirements.
- B. Close-Out Submittal: Contractor to submit the following documents to the Owner at completion of project for review and approval if they are produced during the work:
1. Copies of worker and IH technician certifications.
 2. Copies of worker refresher course certifications.
 3. Waste manifests and disposal receipts.
 4. Final, signed copies of air monitoring results.
 5. Copies of any bulk sampling or lead testing results.
 6. Signed copies of all field data sheets.
 7. Signed copies of all visual inspection forms.

HAZARDOUS MATERIALS – SUMMARY OF REQUIREMENTS

Division 2
Section 02 81 00

8. Sketches of all sample locations.
9. Daily logs with worker sign-in sheets.
10. Drawings documenting the materials and locations of all materials removed by this project.

PART 2 - PRODUCTS

- 2.01 EQUIPMENT, MATERIALS, DECONTAMINATION UNITS, DANGER AND WARNING SIGNS, HEPA FILTRATION, PRESSURE DIFFERENTIAL MONITORING EQUIPMENT, CHEMICALS, ETC: The Contractor shall provide standard commercial quality materials and equipment as required to prepare and complete the work, and as required by regulation. Maintain Safety Data Sheets (SDSs) for all chemical materials brought onto the work-site.

PART 3 - EXECUTION

3.01 ESTIMATED SCOPE AND WORK PRACTICES

- A. No asbestos-containing materials are scheduled for disturbance by this project. Should any asbestos-containing materials require disturbance to complete the work, that work shall be conducted in accordance with this specification and all applicable regulations. Submit updates to the work plan prior to any disturbance of additional asbestos-containing materials.
- B. Lead removal work is anticipated to be limited to removal of drain piping with poured lead at drain bowls and bell and spigot joints. The work may also include minor removal of painted items scheduled for demolition, creation of minor penetrations for items such as conduit or cabling, and minor surface preparation for patching and painting or other similar work. All lead work shall be conducted in accordance with 29 CFR 1926.62. In addition, all lead-containing wastes created by this project MUST have a hazardous waste determination in accordance with EPA regulations.
- C. Mercury-containing lights are not anticipated to be disturbed by this project. If any mercury-containing equipment is removed, they shall be removed intact and disposed of in accordance with the EPA's Universal Waste regulations.
- D. Self-illuminating exit signs are not anticipated to be disturbed by this project. If any radioactive equipment is removed, they shall be removed intact and turned over to the Owner for reuse. If the Owner decides not to salvage the exit signs, the exit signs shall be returned to the manufacturer.
- E. Heating system glycol is not anticipated to be disturbed by this project. If portions of the heating system are disturbed by this project, and if any heat transfer fluids removed from the system for disposal, they shall be TCLP tested for RCRA 8 metals to determine disposal requirements. If being reused, no treatment, including filtering is allowed to happen onsite unless TCLP testing shows the fluids to be non-hazardous waste. Fluids being recycled in accordance with RCRA regulations are exempt from these testing requirements.
- F. Refrigeration equipment with ozone depleting substances were in the project areas that are not anticipated to be disturbed by this project.

HAZARDOUS MATERIALS – SUMMARY OF REQUIREMENTS

Division 2

Section 02 81 00

- G. The Contractor shall identify the presence, locations and quantities of asbestos (if any), lead, and other hazardous materials that will be affected by this project, and conduct all removal and disposal operations in full compliance with Local, State, Federal and all other applicable regulations whether or not they are referenced herein.
- H. The Contractor shall document the location and quantities of hazardous materials removed, including sketches showing precise locations.

3.02 MONITORING

- A. All monitoring shall be performed by fully trained industrial hygiene technicians. Asbestos air samples (if any) shall be analyzed by a laboratory currently rated as proficient in the National Institute of Occupational Safety and Health (NIOSH) Proficiency in Analytical Testing (PAT) program or by microscopists listed in the American Industrial Hygiene Association (AIHA) Asbestos Analyst Registry (AAR). Lead air and dust wipe samples shall be analyzed by a laboratory currently rated as proficient as determined by ELPAT or ELLAP performance for NIOSH Method 7082 and/or NIOSH Method 7105 analytical method for the determination of lead in air and lead in paint chip, soil, and dust wipe samples.
- B. If asbestos-containing materials are disturbed, the Contractor shall conduct asbestos worker exposure monitoring in accordance with 29 CFR 1926.1101. Personnel sampling shall include a minimum of at least three samples per 8 hour shift. Employees shall be monitored at the rate of at least one employee for every eight people performing each task in each work areas. Persons performing separate tasks or in separate work areas shall be sampled separately. The Contractor shall take a minimum of 3 air samples per day inside the work area, and 3 air samples in adjacent areas, plus at least 1 sample outside of the entrance to the work area. Take 2 waste load-out samples for the full duration of the operation, one taken inside the wash-down station and one taken on the clean side of the wash-down station, in addition to the daily work area and environmental samples, (no samples are necessary if no load-out operation is performed). The Contractor shall take one air sample at the exhaust of the HEPA Filtration Unit(s), rotating between units so that each unit is monitored every 3 days.
- C. For interior work, the Contractor shall conduct lead dust wipe sampling for each lead work area without a negative initial determination. Include at least one dust sample immediately outside the entrance to the work area daily. For all work affecting paints or other lead-containing materials, the Contractor shall take personnel air samples in accordance with 29 CFR 1926.62. Personal samples for an employee shall include a minimum of two samples per 8 hour shift. Employees shall be monitored at the rate of at least one employee for every eight people performing each task in each work area. Persons performing separate tasks or in separate lead work areas shall be sampled separately. Take a minimum of two lead-in-air samples inside the work area, and two lead-in-air samples in adjacent areas.
- D. Post-abatement visual inspections are required anytime asbestos is removed, regardless if the removal work occurred indoors or outdoors. Asbestos work area clearance air monitoring is required for all interior work and shall be conducted by the Contractor's Independent Testing Laboratory subcontractor. The Independent Testing Laboratory may not be hired by the Abatement Subcontractor to perform visual inspections and clearance air monitoring. Owner approval is required before a work area is released to unprotected workers. The Contractor is responsible for all costs associated with clearance and scheduling of visual inspection and clearance air monitoring. The maximum acceptable level of airborne asbestos fibers for work area clearance is as published in 40 CFR 763 for PCM analysis. A minimum of five aggressive clearance samples are required for each

HAZARDOUS MATERIALS – SUMMARY OF REQUIREMENTS

Division 2

Section 02 81 00

work area, regardless of the type of analysis. PCM analysis shall be used unless Transmission Electron Microscopy (TEM) analysis is required by 40 CFR 763 due to quantities of materials removed. The Contractor has the option, at its expense and at no cost to the Owner, of re-cleaning the work area and repeating the clearance air monitoring procedures or of having failed phase contrast microscopy (PCM) sample media sent to his/her NVLAP accredited laboratory for TEM analysis by NIOSH Method 7402.

- E. For small-scale, short-duration work, such as creating penetrations in or disturbance of asbestos-containing joint compound, or similar work, that work may be requested to be “cleared” on the basis of a minimum of 5 air samples taken inside the work area during the work, immediately adjacent to where removal is taking place, and where each of those air samples have fiber counts of less than 0.01 f/cc. These alternative “clearance” sampling protocols will only be allowed if fully outlined in the contractor’s work plan, with specific pre-approval by the Owner. Visual inspections are required for all removal work, including small-scale, short-duration work.
- F. Lead work area clearance testing by the Contractor is required for each lead control area where the lead action level has been exceeded. Clearance testing shall be performed only after a visual inspection report by the IH Technician has documented that the work area is clean and that all lead disturbance required by the contract has been completed. Clearance testing shall include the following:
 - 1. A visual inspection report by the Contractor’s IH Technician (or by the “Certified Renovator” if the work is covered by 40 CFR 745) verifying that all lead disturbance required by the contract has been completed and that all visible dust and debris subject to disturbance by the planned work under this contract have been removed and the area HEPA vacuumed, wet mopped or wet wiped.
 - 2. Three (3) lead wipe and/or lead soil sample results are required from within each lead control area per the Contractor’s approved work plan and in accordance with NIOSH method 9100. Clearance levels shall be 100 µg/ft² for wipes or 400 ppm in soil.
- G. All sampling by the Contractor shall be at their own cost.
- H. Mercury-containing lamps work shall be performed in accordance with 40 CFR 261, 40 CFR 264, 40 CFR 265, 40 CFR 273 and 8 AAC.
- I. Waste battery work shall be performed in accordance with 40 CFR 261, 40 CFR 264, 40 CFR 265, 40 CFR 273 and 8 AAC.
- J. Radioactive exit sign work shall be performed in accordance with 10 CFR 20, 8 AAC 61, 18 AAC 60 and 18 AAC 62.
- K. Perform heat transfer fluid work in accordance with 40 CFR 261, 40 CFR 264, 40 CFR 265, 40 CFR 273 and 8 AAC

3.03 DISPOSAL

- A. The Contractor shall determine current waste handling, storage, transportation, and disposal requirements for the chosen waste disposal facilities. Contractor must comply fully with these requirements and all U. S. Department of Transportation and EPA regulations.
- B. Asbestos wastes shall be disposed of in an EPA and DEC permitted asbestos landfill.

HAZARDOUS MATERIALS – SUMMARY OF REQUIREMENTS

Division 2

Section 02 81 00

- C. Lead-containing wastes shall be TCLP tested by the Contractor to determine if they are classified as hazardous waste. TCLP's shall be analyzed by a lab with demonstrated proficiency in performing analyses according to Method 1311 TCLP, corresponding to the current version of Test Methods for Evaluating Solid Wastes (Chemical Physical Methods), SW-846. Evidence may include successful participation in a recognized inter-laboratory quality control program such as a laboratory certified by the California Health and Welfare Agency, Department of Health Services, or a more informal inter-laboratory quality control program.
- D. PCB and other chemical hazard wastes shall be disposed of in an EPA permitted hazardous waste disposal site as required by 40 CFR 260, 40 CFR 761 and 40 CFR 763, the Contractor's approved plan, and the disposal site operator. Comply with current waste disposal, handling, labeling, storage, and transportation requirements of the waste disposal facility, U.S. Department of Transportation, and EPA regulations. Fluorescent, mercury vapor, metal halide and high pressure sodium lamps are classified by the EPA as hazardous mercury waste under the Universal Waste Rule under 40 CFR 273. Mercury and mercury-containing products are considered hazardous waste unless TCLP testing of the waste for mercury confirms the mercury content to be less than the EPA criteria of 0.2 mg/l. If the Contractor chooses to perform a TCLP test of fluorescent lamps, the test shall be conducted in accordance with the requirements of ANSI/NEMA Standard Procedure for Fluorescent Lamp Sample Preparation and Toxicity Characteristic Leaching Procedure, C78.LL 1256-2003 or latest version.
- E. Dispose of radioactive materials and equipment in accordance with the manufacturer's recommendations, the disposal site's requirements and 10 CFR 20, Subpart K. Provide list of manufacturer name and serial numbers for all removed radioactive exit signs to owner.
- F. If the project requires their disturbance, heating systems containing glycol shall be drained and all glycol collected in appropriate waste containers for recycling or disposal. Glycol shall be tested for heavy metals using the Toxicity Characteristics Leaching Procedure (TCLP). Glycol that failed the TCLP shall be packaged for disposal as hazardous waste.

END OF SECTION

STEEL DECKING

PART 1 - GENERAL

1.01 NOTIFICATIONS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.03 SUMMARY

- A. Section Includes:
 - 1. Roof deck.

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.

1.05 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Product Certificates: For each type of steel deck.
- C. Evaluation Reports: For steel deck, from ICC-ES.
- D. Field quality-control reports.

1.06 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."
- C. FM Global Listing: Provide steel roof deck evaluated by FM Global and listed in its "Approval Guide, Building Materials" for Class 1 fire rating and Class 1-90 windstorm ratings.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.02 ROOF DECK

- A. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
 - 1. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 50, zinc coating.
 - 2. Deck Profile: As indicated.
 - 3. Profile Depth: As indicated.
 - 4. Span Condition: Triple span or more.
 - 5. Side Laps: As indicated.

2.03 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.

- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated, battery or pneumatically driven carbon-steel fasteners, or self-drilling, self-threading screws.
- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.
- D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.
- E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi, not less than 0.0359-inch design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.
- F. Weld Washers: Uncoated steel sheet, shaped to fit deck rib, 0.0598 inch thick, with factory-punched hole of 3/8-inch minimum diameter.
- G. Galvanizing Repair Paint: ASTM A 780/A 780M.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions, and requirements in this Section.
- B. Install temporary shoring before placing deck panels if required to meet deflection limitations.
- C. Locate deck bundles to prevent overloading of supporting members.
- D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
 - 1. Align cellular deck panels over full length of cell runs and align cells at ends of abutting panels.
- E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.

- H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.
- I. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install according to deck manufacturer's written instructions.

3.03 ROOF-DECK INSTALLATION

- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches long, and as follows:
 - 1. Weld Diameter: As indicated nominal.
 - 2. Weld Spacing: Weld edge and interior ribs of deck units with a minimum of two welds per deck unit at each support. Space welds as indicated.
 - 3. Weld Washers: Install weld washers at each weld location.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of one-half of the span or 18 inches, and as follows:
 - 1. Mechanically fasten with self-drilling, No. 10 diameter or larger, carbon-steel screws.
 - 2. Mechanically clinch or button punch.
 - 3. Fasten with a minimum of 1-1/2-inch-long welds.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:
 - 1. End Joints: Lapped 2 inches minimum.
- D. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and weld flanges to top of deck. Space welds not more than 12 inches apart with at least one weld at each corner.
 - 1. Install reinforcing channels or zees in ribs to span between supports and weld.
- E. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels according to deck manufacturer's written instructions. Weld or mechanically fasten to substrate to provide a complete deck installation.
 - 1. Weld cover plates at changes in direction of roof-deck panels unless otherwise indicated.
- F. Flexible Closure Strips: Install flexible closure strips over partitions, walls, and where indicated. Install with adhesive according to manufacturer's written instructions to ensure complete closure.

3.04 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Field welds will be subject to inspection.
- C. Prepare test and inspection reports.

3.05 PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

END OF SECTION

COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SUMMARY

A. Section Includes:

1. Load-bearing wall framing.

B. Related Requirements:

1. Section 05 50 00 "Metal Fabrications" for miscellaneous steel shapes, masonry shelf angles, and connections used with cold-formed metal framing.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Protect and store cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling as required in AISI S202.

PART 2 - PRODUCTS

2.01 LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
1. Minimum Base-Steel Thickness: Per Contract Drawings.
 2. Flange Width: Per Contract Drawings.
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and as follows:
1. Minimum Base-Steel Thickness: Matching steel studs.
- C. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, unpunched, with stiffened flanges, and as follows:

1. Minimum Base Steel Thickness: Per Contract Drawings.
 2. Flange Width: Per Contract Drawings.
- D. Steel Single- or Double-L Headers: Manufacturer's standard L-shapes used to form header beams, of web depths indicated, and as follows:
1. Minimum Base-Steel Thickness: Per Contract Drawings.

2.02 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from ASTM A1003/A1003M, Structural Grade, Type H, metallic-coated steel sheet, of same grade and coating designation used for framing members.

2.03 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A36/A36M, zinc coated by hot-dip process in accordance with ASTM A123/A123M.
- B. Mechanical Fasteners: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

2.04 FABRICATION

- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, in accordance with AISI S240 and standards, manufacturer's written instructions, and requirements in this Section.
1. Fabricate framing assemblies using jigs or templates.
 2. Cut framing members by sawing or shearing; do not torch cut.
 3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Locate mechanical fasteners and install in accordance with Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.
- B. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 ft. and as follows:
1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative errors are not to exceed minimum fastening requirements of sheathing or other finishing materials.
 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.01 EXAMINATION

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

3.02 INSTALLATION OF LOAD-BEARING WALL FRAMING

- A. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.
 - 1. If type of supplementary support is not indicated, comply with stud manufacturer's written recommendations and industry standards in each case, considering weight or load resulting from item supported.
- B. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.03 INSTALLATION TOLERANCES

- A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 ft. and as follows:
 - 1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative errors are not to exceed minimum fastening requirements of sheathing or other finishing materials.

3.04 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

METAL FABRICATIONS

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical, and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing, and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. Section Includes:
 - 1. Galvanized Steel Ladders.
 - 2. Steel framing and supports for removed smoke evacuation venting equipment.
 - 3. Steel framing and supports for applications where framing and supports are not specified in other Sections.
- B. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible with one another.
- C. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturers' product data of all manufactured items and products.
- B. Shop Drawings: submit shop drawings with plans, elevations, sections and details showing: sizes, shapes, details of fabrication and construction, brackets, locations of hardware, anchors, accessories, and installation details.

1.05 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.06 FIELD CONDITIONS

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

PART 2 - PRODUCTS

2.01 GALVANIZED STEEL LADERS

- A. General:
 - 1. Comply with ANSI A14.3.
- B. Steel Ladders:
 - 1. Space siderails 18 inches apart unless otherwise indicated.
 - 2. Siderails: Continuous, 1/2-inch by 1 1/2-inch steel flat bars, with eased edges, unless otherwise indicated.
 - 3. Rungs: 1 inch diameter deformed steel bars, unless otherwise indicated.
 - 4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
 - 5. Provide nonslip surfaces on top of each rung by coating with abrasive material metallicity bonded to rung.
 - 6. Provide platforms as indicated, fabricated from welded or pressure-locked steel bar grating, supported by steel angles. Limit openings in gratings to no more than 3/4 inch in least dimension.
 - 7. Support each ladder at top and bottom and not more than 60 inches o.c. with welded or bolted steel brackets.
 - 8. Galvanize all ladders components, including brackets.

2.02 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- C. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.
- D. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.

2.03 FASTENERS

- A. General: Unless otherwise indicated, provide Type 316 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633, or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 - 1. Provide stainless steel fasteners for fastening stainless steel.
- B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A; with hex nuts, ASTM A563; and, where indicated, flat washers.

- C. Stainless Steel Bolts and Nuts: Regular hexagon-head annealed stainless steel bolts, ASTM F593; with hex nuts, ASTM F594; and, where indicated, flat washers.
- D. Anchors, General: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing in accordance with ASTM E488/E488M, conducted by a qualified independent testing agency.

2.04 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
- B. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.05 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (counter-sunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

- I. Provide for anchorage of type indicated, coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

2.06 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
 - 1. Fabricate units from slotted channel framing where indicated.
 - 2. Furnish inserts for units installed after concrete is placed.
- C. Galvanize miscellaneous framing and supports where indicated.
- D. Prime miscellaneous framing and supports with zinc-rich primer unless otherwise indicated.

2.07 GENERAL FINISH REQUIREMENTS

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.08 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
 - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
- B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean galvanized surfaces of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
- C. Shop prime iron and steel items unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
- D. Shop prime with universal shop primer unless indicated.
- E. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
 - 1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 3. Items Indicated to Receive Primers Specified in Section 099600 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 4. Other Steel Items: SSPC-SP 3, "Power Tool Cleaning."
 - 5. Galvanized-Steel Items: SSPC-SP 16, "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."

- F. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
1. Cast Aluminum: Heavy coat of bituminous paint.
 2. Extruded Aluminum: Two coats of clear lacquer.

3.02 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.03 REPAIRS

- A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - a. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
 - b. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION

ROUGH CARPENTRY

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

B. RELATED DOCUMENTS

- C. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Rooftop equipment bases and support curbs.
4. Wood blocking, cants, and nailers.
5. Wood furring and grounds.
6. Wood sleepers.

B. Related Requirements:

1. Section 06 16 00 "Sheathing".
2. Section 07 53 23 "EPDM Membrane Roofing".
3. Section 07 62 10 "Sheet Metal Flashing and Trim".
4. Section 07 72 00 "Roof Accessories".

1.03 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.

1.04 ACTION SUBMITTALS

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

1.05 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Engineered wood products.
 - 3. Power-driven fasteners.
 - 4. Post-installed anchors.
 - 5. Metal framing anchors.

1.06 QUALITY ASSURANCE

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

1.07 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.01 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.

2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.
- C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable design stresses, as published by manufacturer, shall meet, or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.02 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPAC U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- D. Application: Treat items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.03 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade.

1. Application: Interior partitions not indicated as load bearing.
2. Species: Hem-fir; NLGA, WCLIB or WWPA.

2.04 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.
 7. Utility shelving.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of
 1. Hem-fir (north); NLGA, WCLIB or WWPA.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.05 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.06 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, shall meet, or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by

a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
- C. Use for interior locations unless otherwise indicated.
- D. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
 - 1. Use for wood-preservative-treated lumber and where indicated.

2.07 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.
- B. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
- C. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

PART 3- EXECUTION

3.01 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- F. Do not splice structural members between supports unless otherwise indicated.

- G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- H. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 - 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
 - 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
 - 4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.
- I. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with the function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- J. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- K. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- L. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - 2. ICC-ES evaluation report for fastener.
- M. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.02 WOOD BLOCKING, AND NAILER INSTALLATION

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

- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.03 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

3.04 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

SHEATHING

PART 1 - GENERAL

1.01 NOTIFICATIONS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. Section Includes:
 - 1. Roof sheathing.

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
 - 3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5516.
 - 4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 5. For air-barrier and water-resistant glass-mat gypsum sheathing, include manufacturer's technical data and tested physical and performance properties of products.

1.05 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.02 WOOD PANEL PRODUCTS

- A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- B. Factory mark panels to indicate compliance with applicable standard.

2.03 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPAC U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat all plywood unless otherwise indicated.

2.04 SHEATHING

- A. Plywood Sheathing: Exterior sheathing.
 - 1. Span Rating: Not less than 40/20.
 - 2. Nominal Thickness: Not less than 5/8 inch.

2.05 MECHANICAL FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Screws for Fastening Sheathing to Wood Framing: ASTM C1002.
- E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.02 WOOD STRUCTURAL PANEL INSTALLATION

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

END OF SECTION

BUILDING INSULATION

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. Section Includes:
 - 1. Glass-fiber blanket insulation.
 - 2. Vapor retarders.
 - 3. Spray polyurethane foam insulation (SPF).
 - 4. Foam-plastic board insulation

1.04 RELATED SECTIONS

- A. Division 6 Section "Rough Carpentry".
- B. Division 7 Section "EPDM Membrane Roofing" for Roof Insulation.
- C. Division 7 Section "Joint Sealants" for field-applied sealants not otherwise specified in this Section.
- D. Division 7 Section "Metal Wall Panels" and "Metal Roof and Wall Panels". (Air Barrier)
- E. Division 9 Section(s) "Metal Framing and Gypsum Board Assemblies" for installation in wood- and metal-framed assemblies of insulation specified by referencing this Section.
- F. Division 9 Section(s) "Painting and Coating" for installation of Fire-Retardant Intumescent paint meeting 15-minute Thermal Barrier with compatible polyurethane foam.

1.05 REFERENCES

- A. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2000a.
- B. ASTM E 814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops; 2002.
- C. ITS (DIR) - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.
- D. FM 4991 - Approval of Firestop Contractors; Factory Mutual Research Corporation; 2001.

- E. FM P7825 - Approval Guide; Factory Mutual Research Corporation; current edition.
- F. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- B. Protect foam-plastic board insulation as follows:
 - 1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site before installation time.
 - 3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.01 GLASS-FIBER BLANKET INSULATION

- A. Acceptable Manufacturers are limited to the following:
 - 1. CertainTeed Corporation.
 - 2. Guardian Building Products, Inc.
 - 3. Johns Manville.
 - 4. Knauf Insulation.
 - 5. Owens Corning.
 - 6. Alternate Brand Request or Substitution Request required.
- B. Types: See Drawings for Locations
 - 1. Thermal Batt Insulation – Unfaced: Complies with property requirements of ASTM C 665, Type I and ASTM E 136; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84.
- C. Sustainability Requirements: Provide glass-fiber blanket insulation as follows:
 - 1. Free of Formaldehyde: Insulation manufactured with 100 percent acrylic binders and no formaldehyde.

2.02 VAPOR RETARDERS

- A. Vapor Retarder-Exterior Walls: Polyethylene ASTM D 4397, 10 mils thick. ASTM D 2103. Flame-spread rating not to exceed 25 and a smoke density not to exceed 450 when tested in accordance with International Building Code Standard 8-1. Permeance rating is not to exceed 0.13 perms.
 - 1. Acceptable Manufacturers are limited to the following:
 - a. "Dura.Skrim 10FR". Raven Industries
 - b. Alternate Brand Request or Substitution Request required.
 - c. Nu-Age Films. Film 10+ Polyethylene Sheet.
- B. Roof system vapor retarder under the EPDM Membrane Roofing: See Section 07 53 23.

- C. Vapor-Retarder Tape: Pressure-sensitive with cold weather adhesive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
- D. Vapor-Retarder Fasteners: Pancake-head, self-tapping steel drill screws with fender washers.
- E. Single-Component Nonsag Urethane Sealant.
 - 1. Acceptable Manufacturers are limited to the following:
 - a. Tremco Incorporated; "Tremco Acoustical Sealant".
 - b. Alternate Brand Request or Substitution Request required.
- F. Adhesive for polyethylene vapor retarders: Product recommended by vapor-retarder manufacturer and has demonstrated capability to bond vapor retarders securely to substrates indicated.

2.03 SPRAY POLYURETHANE FOAM INSULATION

- A. Sprayed Applied Closed-Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
 - 1. Acceptable Manufacturers are limited to the following:
 - a. BASF Corporation.
 - b. BaySystems NorthAmerica, LLC.
 - c. Dow Chemical Company (The).
 - d. Gaco Western Inc.
 - e. SPI, Specialty Products, Inc.
 - f. Alternate Brand Request or Substitution Request required.
 - 2. Minimum density of 2 lb/cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in. at 75 deg F.

2.04 FOAM PLASTIC BOARD INSULATION

- A. Molded-Polystyrene Board Insulation: ASTM C 578, of type and minimum compressive strength indicated below, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
 - 1. Acceptable Manufacturers are limited to the following:
 - a. DiversiFoam Products.
 - b. Insulfoam.
 - c. Plymouth Foam, Inc.
 - d. Alternate Brand Request or Substitution Request required.
 - e. Type II, 15 psi.
- B. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, vapor retarders, or air infiltration barriers, including removing projections capable of puncturing vapor retarders, or that interfere with insulation attachment.

3.02 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.03 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Glass-Fiber Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
 - 5. For wood-framed construction, install blankets according to ASTM C 1320.
- C. Spray-Applied Polyurethane Foam Insulation (SPF): Apply polyurethane foam insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked. Seal openings on surfaces so that the foam applied will not expand into undesired locations. After insulation is applied, trim insulation flush with face of studs by using method recommended by insulation manufacturer.
- D. Low expansion foam insulation around roof, wall, and floor penetrations: At locations around doors, windows, cavities and similar locations with voids under several inches in width, fill joint opening with low expansion foam. Apply in multiple layers to prevent distortion of opening or frame. Begin application with the first layer applied to the exterior or cold side of the joint. Allow each application to cure independently before application of subsequent layers of low expansion

foam. Trim interior surface slightly below interior surface to allow installation of backer rod and sealant.

- E. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where indicated to prevent gaps in insulation using the following materials:
 - 1. Spray Polyurethane Insulation: Apply spray polyurethane foam according to manufacturer's written instructions.

3.04 INSTALLATION OF VAPOR RETARDERS

- A. Apply sealant between vapor retarder sheet and substrate at all vapor retarder terminations.
- B. Mechanically fasten locations where vapor retarder sheet terminates on substrate. Taping vapor retarder sheet to substrate is not acceptable for terminations.
- C. Place vapor retarders on warm side of construction as indicated on Drawings. Extend vapor retarders to extremities of areas to protect from vapor transmission. Secure vapor retarders in place with adhesives or other anchorage system as indicated. Extend vapor retarders to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
- D. Place vapor retarder under slab in all areas of new concrete slab construction.
- E. Vapor Retarder is to function as an interior air barrier and as a vapor retarder to prevent all movement of heated interior air through the framing construction towards the exterior. All joints, laps, penetrations, holes gaps, etc. are to be sealed airtight prior to covering with wall, floor or roof finishes or assemblies.
- F. Seal vertical joints in vapor retarders over framing by lapping no fewer than two studs.
 - 1. Fasten vapor retarders to wood framing at top, end, and bottom edges; at perimeter of wall openings; and at lap joints. Space fasteners 16 inches o.c.
 - 2. Before installing vapor retarders, apply urethane sealant to flanges of metal framing including runner tracks, metal studs, and framing around door and window openings. Seal overlapping joints in vapor retarders with vapor-retarder tape according to vapor-retarder manufacturer's written instructions. Seal butt joints with vapor-retarder tape. Locate all joints over framing members or other solid substrates.
 - 3. Firmly attach vapor retarders to metal framing and solid substrates with vapor-retarder fasteners as recommended by vapor-retarder manufacturer.
- G. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape to create an airtight seal between penetrating objects and vapor retarders.
- H. Doors, Windows, and openings through exterior walls: At interior side of wall, after installation of low expansion foam insulation, install backer rod in joint between frame of window, door, or element and flashed rough opening. Apply urethane sealant around entire window to create flexible air seal and vapor retarder. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C1193.
- I. Repair tears or punctures in vapor retarders immediately before concealment by other work. Cover with vapor-retarder tape or another layer of vapor retarders.
- J. Roof self-adhesive vapor retarders: Follow manufacturer's recommendations for complete seal of joints and drawing details for points of termination at penetrations.
- K. Spray-Applied polyurethane foam insulation vapor retarder: Apply spray vapor retarder according to the manufacturer's installation instructions. Spray is to extend over warm side (interior) surface

of all sprayed polyurethane foam insulation, adjacent materials, and adjacent vapor retarder. Apply adequate material to ensure a vapor tight seal over all polyurethane foam material. Overlap adjacent substrates a minimum of 4 inches.

3.05 PROTECTION

- A. Protect installed insulation, vapor retarders, and air infiltration barriers 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

FALL PROTECTION DEVICES

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes the following:
 - 1. Provide structural fall protection anchors capable of withstanding loads and stresses within limits and under conditions specified in OSHA and other applicable safety codes. Fall protection anchors shall be permanently attached to the roof structure.
 - 2. Section Includes the following:
 - a. Roof mounted fall protection anchors
 - b. Wall mounted fall protection anchors.
 - 3. See drawings for device mounting locations, quantity of devices required and mounting substrate material information.
- B. Related Sections include the following:
 - 1. Division 5 Section "Metal Fabrications"
 - 2. Division 6 Section "Rough Carpentry".
 - 3. Division 7 Section "EPDM Membrane Roofing".
 - 4. Division 7 Section "Sheet Metal Flashing and Trim".

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Attachments details for each specific roof substrate condition and anchor mast size and wall brackets, stamped by an Alaska licensed Structural Engineer.

- C. Maintenance Data: Written Instructions for maintenance of fall prevention safety devices to be included in the M&O manual.

1.05 QUALITY ASSURANCE

A. Design Requirements:

1. Anchor designed by Fall Protection Device Manufacturer for the intended use for a safety strap snap connection by an individual worker capable of withstanding a 5,000-pound load at any height on anchor mast, with a safety factor of 2 meeting the requirements of OSHA 1926.502(d)(8).
2. Anchor attachment plate shall be factory prepared with manufacture provided corrosion resistant fasteners. Attachment plate and anchors shall be engineered for the actual roof substrate condition.
3. Performance Requirements: Fall Restraint: 1 user. Fall Arrest: 1 user.
4. Manufacturer Qualifications; Manufacturer having at least 7 years continuous experience in manufacturing fall safety equipment similar to systems specified here-in.
5. Testing: Perform quality control tests for each system per manufacture's requirements. Submit quality control test documents.
6. Contractor to provide and install any necessary deck reinforcing required for proper anchor attachment.
7. Contractor to provide digital field photographs of fasteners used and fully installed anchors prior to roof covering activities.
8. Contractor to provide a complete insulation and flashing of the fall arrest mast as indicated in the drawings.

1.06 PROJECT CONDITIONS

- A. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from fall protection device installation.

PART 2 PRODUCTS

2.01 FALL PROTECTION DEVICES

A. Roof anchors:

1. Provide fall protection CB Anchor Post, hot dipped galvanized steel as designed by Guardian Fall Protection Inc or approved product substitution.
 - a. Provide mechanical attachment design for the substrate deck materials and condition.
 - b. Minimum Mast exposed height above installed adjacent roof membrane surface: 12 inches.
 - c. Provide brightly colored UV resistant indicator flags banded to each post with stainless steel bands set 2 feet above the top of anchors.
2. See drawings for mast quantity and mounting locations.

3. Roofing installer shall provide and install boot type flashing to new roof membrane. Roofing installer shall also provide a tight installation of roof insulation board to the mast.

B. Wall anchors:

1. Provide wall mount fall protection HWMB Bracket, hot dipped galvanized steel as designed by Hardy Fall Protections Inc. or approved product substitution. Available through Simplified Safety; www.simplifiedsafety.com
2. See drawings for bracket quantity and mounting locations.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean and clear any existing substrate decking or wall surface to receive fall protection device
1. Deck Preparation
 - a. Inspect deck after tear-off of membrane roofing system.
 - b. Prior to installation: inspect underside of roof deck to adjust anchor location as needed to avoid anchor penetrations of any interior deck mounted raceways or deck mounted fire detection or fire sprinkler devices.
 - c. Coordinate installation with any Hazardous Materials abatement work near the device installation location(s).
 - d. Verify that the roof deck surface is sound, dry, and suitable for fall protection device service conditions.
 2. Wall Preparation
 - a. Inspect wall surfaces for compliance with engineering design and mounting requirements.
 - b. Prepare wall surface by bush hammering surface of CMU for level surface or fully grout behind bracket as determined by engineering design.
- B. If deck or wall surface is not suitable for receiving new fall protection device, or if structural integrity of deck or wall is suspect, immediately notify Owner. Do not proceed with installation until directed by Owner.
- C. Notify Owner in writing when mast installation and wall anchor installation testing is complete, and unit is ready for intended service use.

END OF SECTION

WEATHER BARRIERS

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SUBMITTALS

- A. Product Data: For each type of product; include data on air and water-vapor permeance based on testing according to referenced standards.
- B. Evaluation Reports: For water-resistive barrier and flexible flashing, from ICC-ES.

PART 2 - PRODUCTS

2.01 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE)

- A. Air Barrier Sheet, Self-Adhered:
 - 1. Air Permeance: 0.004 cfm/sq ft (0.02 L/(s sq m)), maximum, when tested in accordance with ASTM E2178.
 - 2. Water Vapor Permeance: 10 perms (572 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M Procedure A (Desiccant Method) at 73.4 degrees F (23 degrees C).
 - 3. Water Penetration Resistance Around Nails: Pass, when tested in accordance with ASTM D1970/D1970M (modified).
 - 4. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 90 days of weather exposure.
 - 5. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less (Class A), when tested in accordance with ASTM E84.
 - 6. Complies with NFPA 285 wall assembly requirements.
 - 7. Water Resistance: Comply with applicable water-resistive requirements of ICC-ES AC308.
 - 8. Seam and Perimeter Tape: As recommended by sheet manufacturer.
 - 9. Manufacturers:
 - a. Carlisle Coatings and Waterproofing, Inc; Fire Resist 705
VP: www.carlisleccw.com/#sle.

- b. Dorken Systems Inc; DELTA-VENT SA: www.dorken.com/#sle.
- c. Dorken Systems Inc; DELTA-VENT S: www.dorken.com/#sle.
- d. GCP Applied Technologies; Perm-A-Barrier VPS: www.gcpat.com/#sle.
- e. Henry Company; Blueskin VP160: www.henry.com/#sle.
- f. Henry Company; Blueskin VP100: www.henry.com/#sle.
- g. W. R. Meadows, Inc; Air-Shield SMP: www.wrmeadows.com/#sle.
- h. Substitutions: See Division 1 – Substitution and Product Option

2.02 ACCESSORIES

- A. Sealants, Tapes, and Accessories for Sealing Weather Barrier and Sealing Weather Barrier to Adjacent Substrates: As specified or as recommended by weather barrier manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and conditions are ready to accept the work of this section.

3.02 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives in accordance with manufacturer's instructions.

3.03 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Water-Resistive Barriers: Install continuous barrier over surfaces indicated, with sheets lapped to shed water but with seams not sealed.
- C. Air Barriers: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- D. Apply sealants and adhesives within recommended application temperature ranges. Consult manufacturer if temperature is out of this range.
- E. Self-Adhered Sheets:
 - 1. Prepare substrate in manner recommended by sheet manufacturer; fill and tape joints in substrate and between dissimilar materials.
 - 2. Lap sheets shingle-fashion to shed water and seal laps air tight.
 - 3. Once sheets are in place, press firmly into substrate with resilient hand roller; ensure that laps are firmly adhered with no gaps or fishmouths.
 - 4. Use same material, or other material approved by sheet manufacturer for the purpose, to seal to adjacent construction and as flashing.
 - 5. At wide joints, provide extra flexible membrane allowing joint movement.
- F. Openings and Penetrations in Exterior Weather Barriers:
 - 1. Install flashing over sills, covering entire sill frame member, extending at least 5

inches onto weather barrier and at least 6 inches (up jambs; mechanically fasten stretched edges.

2. At openings to be filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing tape at least 4 inches (100 mm) wide; do not seal sill flange.
3. At openings to be filled with non-flanged frames, seal weather barrier to each side of opening framing, using flashing at least 9 inches (230 mm) wide, covering entire depth of framing.
4. At head of openings, install flashing under weather barrier extending at least 2 inches (50 mm) beyond face of jambs; seal weather barrier to flashing.
5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
6. Service and Other Penetrations: Form flashing around penetrating item and seal to weather barrier surface.

3.04 FIELD QUALITY CONTROL

- A. See Division 1 - Quality Control, for additional requirements.
- B. Coordination of ABAA Tests and Inspections:
 1. Provide testing and inspection required by ABAA QAP.
 2. Notify ABAA in writing of schedule for air barrier work, and allow adequate time for testing and inspection.
 3. Cooperate with ABAA testing agency.
 4. Allow access to air barrier work areas and staging.
 5. Do not cover air barrier work until tested, inspected, and accepted.
- C. Do not cover installed weather barriers until required inspections have been completed.
- D. Take digital photographs of each portion of the installation prior to covering up.

3.05 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.
- B. Do not leave paper- or felt-based barriers exposed to weather for longer than one week.

END OF SECTION

METAL WALL PANELS

PART 1- GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes the following:
 - 1. Factory-formed, exposed-fastener, lap-seam metal wall panels.
- B. Related Sections include the following:
 - 1. Division 3 Section "Sheathing".
 - 2. Division 6 Section "Rough Carpentry".
 - 3. Division 6 Section "Cold-Formed Metal Framing".
 - 4. Division 7 Section "Building Insulation".
 - 5. Division 7 Section "Sheet Metal Flashing and Trim".
 - 6. Division 7 Section "Joint Sealers".

1.04 PERFORMANCE REQUIREMENTS

- A. General: Provide metal wall panel assemblies that comply with performance requirements specified as determined by testing manufacturers' standard assemblies similar to those indicated for this Project, by a qualified testing and inspecting agency.
- B. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
 - 3. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- C. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E283 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

- D. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.05 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal wall panel and accessory.
- B. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled work, if any.
- C. Samples for Selection: For each type of metal wall panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
 - 2. Include manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each sealant exposed to view.
- D. Maintenance Data: For metal wall panels to include in maintenance manuals.
- E. Warranties: Special warranties specified in this Section.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: The manufacturer shall authorize the installer and actual work shall be supervised by personnel trained by the manufacturer.
- B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.
- C. Source Limitations: Obtain each type of metal wall panel through one source from a single manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, metal wall panels, and other manufactured items so as not to be damaged or deformed. Package metal wall panels for protection during transportation and handling.
- B. Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.

- C. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect strippable protective covering on metal wall panels from exposure to sunlight and high humidity, except to extent necessary for period of metal wall panel installation.

1.08 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal wall panel assemblies that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures, including rupturing, cracking, or puncturing.
 - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
 - 1. Basis-of-Design Products: The design for each metal wall panel specified is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.02 PANEL MATERIALS

- A. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792.
 - 2. Surface: Full 12-inch panel with one rib.

3. Exposed Coil-Coated Finish:
 - a. 2-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
4. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

2.03 EXPOSED-FASTENER, LAP-SEAM METAL WALL PANELS

- A. Provide factory-formed metal panels designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.

2.04 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
 1. Hat-Shaped, Rigid Furring Channels:
 - a. Minimum Base-Steel Thickness: 0.036 inch.
 - b. Depth: 7/8 inches.
 2. Z - Shaped Members, Rigid Furring.
 - a. Minimum Base-Steel Thickness: 0.036 inch.
 - a. Depth: 1 1/2 inches.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated:
 1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
1. Fasteners for Wall Panels: Self-drilling or self-tapping 410 stainless steel hex washer head, with EPDM washer under heads of fasteners bearing on weather side of metal wall panels.
 2. Fasteners for Flashing and Trim: Stainless steel blind fasteners or self-drilling screws with hex washer head.
 3. Blind Fasteners: High-strength stainless-steel rivets
- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch wide and 1/8 inch thick.
 2. Joint Sealant: ASTM C920; as recommended in writing by metal panel manufacturer.
 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311
- F. Air Barrier: See Section 07 25 00 - Weather Barriers.

2.05 EXPOSED-FASTENER, LAP-SEAM METAL WALL PANELS

- A. General: Provide factory-formed metal wall panels designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
- B. Reverse Box Rib-Profile, Exposed-Fastener Metal Wall Panels: Formed with vertical panel edges and flat pan between panel edges; no stiffening ribs, with flush joint between panels.
1. Manufacturers: Subject to compliance with requirements:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide "Reverse Box Rib Roof and Wall panel by AEP-Span or comparable product by one of the following:
 2. Manufacturers:
 - a. CENTRIA Architectural Systems.
 - b. Firestone.
 - c. Kingspan.
 - d. Metal Sales.
 - e. Approved equal.
 3. Material: Aluminum-zinc alloy-coated steel sheet, Steel conforming to ASTM A792, minimum yield 50,000 psi, 22 gauge nominal thickness.
 - a. Exterior Finish: 2-coat fluoropolymer.
 - b. Color: As selected by Architect from manufacturer's full range.
 4. Panel Coverage: 36 inches.
 5. Panel Height: 1.5 inches.
 6. Major-Rib Spacing: 7-13/64 inches o.c.

2.06 ACCESSORIES

- A. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly as indicated and including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.
 - 1. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
- B. Flashing and Trim: See Section 07 62 00.
- C. Screws holding wall panels to the structure shall be stainless steel self-tapping sheet metal screws into pre-drilled holes.
- D. For weather tightness, screws shall have EPDM washers and pop-rivets shall be set in wet sealant. Exposed fasteners shall be a minimum of #14 size screw or 3/16" diameter pop-rivet. These fasteners shall be color matched to the wall panels.
- E. Precut profile closures shall be closed cell rubber RE-42 meeting ASTM D-1056 EPT. Metal profile closures, of the same material and color as the wall panel, shall be placed in front of all rubber closures that have UV exposure.
- F. Sealant: See Section 07 90 00.

2.07 FABRICATION

- A. General: Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
- B. Tolerances: Install Metal Wall Panels and sheet metal flashing and trim to a tolerance of 1/4 inch in 20 feet in plane and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.

3. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
4. Fabricate cleats and attachment devices from same material as accessories being anchored or from compatible, noncorrosive metal recommended by metal wall panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.08 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of work.
 1. Examine primary and secondary wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.
 2. Examine solid wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
 3. Verify that weather-resistant sheathing paper or waterproof underlayment is installed over sheathing or backing substrate as indicated to prevent air infiltration or water penetration.
 4. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
- B. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.01 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Verify locations of structural members and wall opening dimensions by field measurements before metal wall panel fabrication and indicate measurements on Shop Drawings.

3.02 COORDINATION

- A. Coordinate metal wall panel assemblies with rain drainage work, flashing, trim, and construction of studs, soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

3.03 METAL WALL PANEL INSTALLATION, GENERAL

- A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Field cutting of metal wall panels by torch is not permitted.
 - 2. Shim or otherwise plumb substrates receiving metal wall panels.
 - 3. Rigidly fasten base end of metal wall panels and allow eave end free movement due to thermal expansion and contraction. Predrill panels.
 - 4. Flash and seal metal wall panels with weather closures at eaves, rakes, and at perimeter of all openings. Do not begin installation until weather barrier and flashings that will be concealed by metal wall panels are installed.
 - 5. Install screw fasteners in predrilled holes.
 - 6. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 7. Install flashing and trim as metal wall panel work proceeds.
 - 8. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 - 9. Align bottom of metal wall panels and fasten with self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 - 10. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by applying rubberized-asphalt underlayment to each contact surface.
- C. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal wall panel manufacturer.
 - 1. Seal metal wall panel end laps with double beads of sealant, full width of panel. Seal side joints where recommended by metal wall panel manufacturer.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

3.04 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On

completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.

- B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

EPDM MEMBRANE ROOFING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.03 SUMMARY

A. Section Includes:

1. Adhered EPDM membrane roofing system.
2. Substrate board
3. Adhered insulation system.
4. Vapor retarder/Air Barrier..
5. Flexible Walkways.
6. Pressure Sensitive Warning Strips.
7. Warranty Signage.

B. Related Requirements:

1. Section 2 Section "Demolition"
2. Division 6 Section "Rough Carpentry".
3. Division 7 Section "Membrane Reroofing Preparation".
4. Division 7 Section "Sheet Metal Flashing and Trim".
5. Division 7 Section "Roof Accessories".
6. Division 22 Section "Plumbing Piping".

1.04 DEFINITIONS

- A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing Manual" for definitions of terms related to roofing work in this Section.

1.05 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.
 - 1. Meet with Owner, Architect, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
 - 4. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 - 5. Review temporary protection requirements for roofing system during and after installation.
 - 6. Review roof observation and repair procedures after roofing installation.

1.06 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience. All products installed on the roof system are to be approved by the Roofing System Manufacturer for the warranty specified.
- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7. See structural drawings for wind zone locations and pressure requirements.

1.07 DESIGN CRITERIA

- A. Wind Uplift Performance:
 - 1. Roof system is designed to withstand wind uplift forces as calculated using the current revision of ASCE-7.
 - 2. Wind Design Speed:

- a. See Drawing Sheet S1.01 for requirements.
- 3. Wind Uplift:
 - a. See Drawing Sheet S1.02 for performance requirements.
- B. Fire Resistance Performance:
 - 1. Roof System will maintain, a UL Class A rating when tested in accordance with UL 790.
- C. Thermal Performance: R-value varies by location.
- D. Drainage:
 - 1. Insulated roof surfaces: Minimum slope shall be 3/8" per foot slope except where roofing manufacturer requires greater slope for warranty.
- E. Building Codes:
 - 1. Roof system will meet the requirements of all federal, state and local code bodies having jurisdiction.

1.08 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Roof Warranty Sign: Submit for review material, sign text content and proposed installation location.
- C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Manufacturer approved adhesive attachment ribbon patterns for adhered insulation for corner, perimeter, and field-of-roof locations.
 - 4. Manufacturer approved metal plate/screw fastening patterns for installation for corner, perimeter, and field-of-roof locations.
- D. Samples for Verification: For the following products, in manufacturer's standard sizes:
 - 1. 8-by-11-inch square of sheet roofing, including T-shaped side and end lap seam.
 - 2. 8-by-11-inch square of roof insulation.
 - 3. 8-by-11-inch square of walkway pads or rolls.
 - 4. 12-inch length of metal termination bars.

5. Sample metal plate washers and screws.

1.09 INFORMATIONAL SUBMITTALS

- A. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that the designed roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. The Manufacturer Certificate is to be submitted to the Owner within 15 days after formal Notice to Proceed from ASD.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.
- D. Warranties: Samples of special warranties.
- E. Certificates: Manufacturer's inspection reports of final inspection for warranty.

1.10 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For membrane roofing system to include in maintenance manuals.
- B. Warranties.

1.11 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty. Installer is to have a minimum of five years of documentable experience installing similar roof systems and is to provide a list of references of same upon request by the Owner.
- B. Source Limitations: Obtain components including roof insulation fasteners and all other components for membrane roofing system from same manufacturer as membrane roofing or approved by membrane roofing manufacturer.
- C. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- D. Preinstallation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.
10. Combine meeting discussion items with those listed in Section 07 59 01.

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
 2. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
 3. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.13 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Do not allow non-waterproof roofing products or uncoated felts to be exposed to moisture, rain, ice or snow. Roofing products are to be waterproofed on a daily basis.

1.14 WARRANTY

- A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 - 1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, roofing accessories, and other components of membrane roofing system.
 - 2. Warranty Period: 30 years from date of Substantial Completion.
 - 3. Wind Warranty: To resist wind up to and including 120 MPH (3-second gust speed) as defined per the 2018 IBC.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering Work of this Section, including all components of membrane roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 EPDM MEMBRANE ROOFING

- A. Source Limitations: Obtain components including roof insulation fasteners Insert products for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.
- B. EPDM: ASTM D 4637, Type II, unreinforced uniform, flexible EPDM sheet.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Carlisle SynTec Incorporated.
 - b. Elevate Building Envelope.
 - c. No substitutions.
 - 2. Thickness: 90 mils, nominal.
 - 3. Exposed Face Color: Black.

2.02 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials approved by the roofing system manufacturer for specified warranty and intended use and compatible with membrane roofing.
- B. Sheet Flashing: 60-mil- thick EPDM, partially cured or cured, according to application.
- C. Bonding Adhesive: Manufacturers standard.

- D. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 6 inch wide minimum, butyl splice tape with release film.
- E. Lap Sealant: Manufacturer's standard, single-component sealant.
- F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- G. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- H. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick, prepunched.
- I. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening system components to substrate, and acceptable to roofing system manufacturer.
- J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.
- K. Roof membrane manufacturers walk pads. Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer. 30-inch x 30-inch.

2.03 VAPOR RETARDER

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Manufacturer approved self-adhering rubberized asphalt membrane (SAM) which is compatible with the specified roofing system:
 - a. VapAir Seal 725TR Air and Vapor Barrier/Temporary Roof by Carlisle SynTec Systems.
 - b. V-Force Vapor Barrier Membrane by Firestone Building Products, Inc.
 - 2. Manufacturer approved Air and Vapor Barrier repair products.

2.04 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by EPDM membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. At select locations insulation layers are to be adhered with a manufacturer approved, cold applied adhesive, not asphalt.
- C. At select locations insulation layers are to be mechanically attached with manufacturer approved plate washers and screws.

- D. Molded-Polystyrene Board (EPS) Insulation: ASTM C 578 Type II, 1.35-lb/cu. ft. minimum density. The R-value for calculation purposes for Type II EPS insulation is to be R-4.55 per inch thickness, measured at 40 degrees F.
 - 1. Available Manufacturers:
 - a. Insulfoam, Inc.
 - b. Approved equal.
 - 2. Maximum dimension: 4 feet by 4 feet
- E. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches unless otherwise indicated on drawings.
 - 1. Minimum thickness: All insulated roofs -1/2-inch
 - 2. Slope clicket drainage – 1/4-inch..
- F. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- G. Provide diversion crickets on up slope side of all roof penetrations greater the 2'-0" wide (width perpendicular to direction of slope).
- H. Contractor option: Polyisocyanurate Board Insulation: ASTM C 1289, Type II, felt facer on both major surfaces. The R-value for calculation purposes for Polyisocyanurate insulation is to be R-5.6 per inch thickness. Maximum thickness to be 3.5 inches per layer.

2.05 COVER BOARDS

- A. Thermal Barrier, GWB: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, Type X, thickness as required by Code and per membrane manufacturer requirements.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Georgia-Pacific Corporation; "DensDeck Prime". Minimum thickness as required by roofing manufacturer and or current building code.
 - b. Approved product substitution. Minimum thickness as required by code or impact performance equal to DensDeck Prime – whichever is greater..
- B. EPDM Substrate Board, High density polyisocyanurate or DensDeck Prime Plus as approved by the warranting manufacturer.
 - 1. Thickness: 1/2" or as required by warranty manufacturer.

2.06 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer. Adhere to roof membrane per manufacturers

recommended products and installation requirements. Walkways must be installed prior to substantial completion inspection.

2.07 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.
- B. Bead-Applied Insulation Adhesive: Manufacturer's recommended bead-applied, low-rise, one- or multi-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.

2.08 PRESSURE SENSITIVE WARNING STRIP

- A. Product: Yellow Pressure-Sensitive Warning Strip 30-mil-thick non-reinforced TPO flashing laminated to a nominal 30-mil thick, fully cured synthetic rubber pressure sensitive (PS) adhesive. Install in accordance with manufacturer's recommendations.
- B. Properties:
 - 1. Tensile Strength (ASTM D412): 2,500 psi minimum, 2,900 psi typical.
 - 2. Elongation (ASTM D412): 600% minimum, 750% typical.
 - 3. Hardness, Shore A (ASTM D2240): Typical 80.
 - 4. Color: Yellow
 - 5. Base: Membrane - Non-reinforced TPO; Adhesive - Synthetic Rubber.
 - 6. Solids: 100%
 - 7. Nominal Thickness: 0.060".
 - 8. Nominal Width: Membrane - 6"; Adhesive 6 1/4"
 - 9. Nominal Length: 100 ft.

2.09 ROOF WARRANTY SIGNAGE

- A. Size: Minimum 8 1/2 inches by 11 inches.
- B. Sign Materials; .09375 Aluminum, Cardinal Red on White reflective 1/4" radius corners.
- C. Quantity:
 - 1. Provide separate sign for all roof access points.
- D. Content:
 - 1. Roof installing contractor warranty information below:
 - a. Roof installation contractor name
 - b. Roof warranty reference number (if applicable)

- c. Roof warranty contact information (phone number and email)
 - d. Date of warranty expiration
2. Roof major materials manufacturer's warranty information. Provide warranty information for each warranty manufacturer's warranty.
- a. Roof manufacturer name
 - b. Roof warranty number
 - c. Roof warranty contact information (phone number and email)
 - d. Date of warranty expiration

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. If deck surface is not suitable for receiving new roofing, or framing, or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.
 - 2. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 3. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.
 - 4. Verify that deck substrate is visibly dry, sound and free of moisture.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.03 THERMAL BARRIER

- A. Mechanically attach GWB thermal barrier on Steel decks.
- B. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

3.04 VAPOR-RETARDER INSTALLATION

- A. Contractor to repair any voids or damage to the existing BUR membrane to restore its effectiveness. In addition, provide repairs at penetrations and edge conditions where the BUR membrane fails to provide effective closure prior to the installation of the new roof assembly.
 - 1. Apply primer to all wood surfaces. Do not apply primer or vapor retarder to frozen substrates.
 - 2. Do not apply primer or vapor retarder to damp or contaminated surfaces.
 - 3. Primer: Surfaces to receive vapor retarder must be clean and dry.
 - 4. Prime with manufacturer approved primer if required by manufacturer. Apply Primer by spray, brush or with a long nap roller at the applicable coverage rate. At 75°F allow primer to dry 1 hour minimum. Primer has a satisfactory cure when it will not transfer when touched. Prime only areas to be waterproofed the same day. Re-prime if area becomes dirty.
 - 5. Application: Apply vapor retarder from low to high point, in a shingle fashion, so that laps will shed water. Overlap all edges at least 3-1/2". End laps shall be staggered and overlapped a minimum of 6". Place membrane carefully so as to avoid wrinkles and fishmouths. Immediately after installation, roll with a 100-150 pound weighted steel roller.
 - 6. Repairs: Following application, inspect membrane for tears, punctures, fishmouths, air bubbles and voids due to misalignment at seams. Remove damaged membrane. Prime exposed substrate and allow primer to dry. Apply a new section of vapor retarder to primed substrate, extending onto adhered membrane 6" on all sides. Firmly press air and vapor retarder repair section to ensure a good seal. Slit fishmouths and overlap the edges. Place a section of vapor retarder over the repair and extend 6" in all directions. Firmly press repair section to ensure a good seal.

3.05 ASSEMBLY INSTALLATION

A. GENERAL

- 1. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- 2. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- 3. Install insulation under area of roofing to achieve required thickness. Install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- 4. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - a. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

5. Install tapered insulation under area of roofing to conform to slopes indicated.
6. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

B. THERMAL BARRIER INSTALLATION

1. Mechanically attach thermal barrier using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to steel panel decks
2. Attach board to resist uplift pressures at corners, perimeter, field of roof and any other pressure zones indicated on the drawings.
3. Position insulation fastening plates as required by System Manufacturer.
4. Secure insulation fastening plates using the appropriate Manufacturer fastener.

C. ADHERED INSULATION INSTALLATION

1. Adhered Insulation: Install top and bottom layer of insulation and adhere to substrate as follows:
2. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place until adhesive sets.
3. Walk the boards into the adhesive and roll using 30" wide 150 pound segmented steel roller ensure full embedment.
4. Adhere insulation to resist uplift pressure at corners, perimeter, and field of roof.

D. ADHERED COVER BOARD

1. Adhered Coverboard: Install coverboards and adhere to insulation substrate.
2. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Stagger coverboard joints from joints in insulation below a minimum of 12 inches in each direction.
3. Set coverboard in ribbons of bead-applied insulation adhesive, loosely butting cover boards together. Firmly press and maintain coverboard in place with adequate pressure until cover board is bonded to insulation.
4. Adhere cover boards to resist uplift pressure at corner, perimeter, field and other pressure zones on the roof indicated on the drawings.

3.06 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll membrane roofing and allow to relax before installing.
- B. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

- C. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry before installing membrane roofing. Do not apply to splice area of membrane roofing.
- D. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeters.
- E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- F. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping membrane roofing according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of membrane roofing terminations.
- G. Secondary Seam Flashing: Install Manufacturer's standard 6-inch wide peel & stick flashing tape over all completed seams in roofing membrane. Apply lap sealant to 6-inches each direction beyond all overlaps. Apply lap sealant to 6-inches beyond each endlap of 6-inch secondary flashing.
- H. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- I. Spread sealant or mastic bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

3.07 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturers' written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Secondary Flashing for Baseflashing Seams: Install Manufacturer's standard 6-inch wide peel & stick flashing tape over all completed flashings in roofing membrane. Apply lap sealant to 6-inches each direction beyond all overlaps. Apply lap sealant to 6-inches beyond each endlap of 6-inch secondary flashing.
- F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.08 PRESSURE SENSITIVE WARNING STRIP INSTALLATION

- A. Locate 6'-0" from roof perimeter edge as indicated on the drawings. Provide 12" gap every 20'-0" length of warning strip.

3.09 WARRANTY SIGNAGE INSTALLATION

- A. Mechanically Fasten to Structure at four corners. Near roof access location approximately 5'-4" above the floor.
- B. Location:
 - 1. Near the bottom of the ladder where the ladder goes up to a roof hatch install the signage on the wall in front or side of the ladder.
 - 2. At the roof access door, install the signage on the door, and indicate on the final as-built drawings.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Owner may engage a qualified independent testing agency to perform inspections.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 - 1. Notify Architect or Owner 48 hours in advance of date and time of inspection.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.11 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray, spillage, smears, etc from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.12 SAMPLE WARRANTY SIGN

- A. Sample:

**ALPENGLOW
ELEMENTARY SCHOOL**

← FACILITY NAME, 3/4" ARIAL FONT

ROOF INSTALLING CONTRACTOR WARRANTY INFORMATION: ← WARRANTY INFORMATION, 3/8" ARIAL FONT. INFORMATION TO BE COMPLETED AND COORDINATED WITH AWARDED CONTRACTOR

- ROOF INSTALLING CONTRACTOR NAME
- ROOF WARRANTY REFERENCE NUMBER
- ROOF WARRANTY CONTACT INFORMATION (PHONE AND EMAIL)
- DATE OF EXPIRATION

ROOF MAJOR MATERIALS MANUFACTURER WARRANTY INFORMATION:

- ROOF MANUFACTURER NAME
- ROOF WARRANTY REFERENCE NUMBER
- ROOF WARRANTY CONTACT INFORMATION (PHONE NUMBER AND EMAIL)
- DATE OF WARRANTY EXPIRATION

17"

11"

3.13 ROOFING INSTALLER'S WARRANTY

WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

Owner: Anchorage School District.

Address: 1301 Labar Street, Anchorage, Alaska 99515.

Building Name/Type: Alpenglow Elementary School

Address: 19201 Driftwood Bay Dr.; Eagle River, AK 99577

Area of Work: Roof

Total Roof Square Footage:

Acceptance Date:

Warranty Period:

Expiration Date:

AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

This Warranty is made subject to the following terms and conditions:

Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

- a. Lightning;
- b. Peak gust wind speed exceeding 120 MPH, (3-second gust);
- c. Fire;
- d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
- e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
- f. Vapor condensation on bottom of roofing; and
- g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.

Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.

During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.

This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, 202__.

Authorized Signature: _____.

Name: _____.

Title: _____.

END OF SECTION

MEMBRANE REROOFING PREPARATION

PART 1 -GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes the following:
1. Roof tear-off.
 2. Temporary roofing membrane.
 3. Removal of base flashings.
- B. Related Sections include the following:
1. Division 6 Section "Rough Carpentry".
 2. Division 7 Section "EPDM Membrane Roofing".
 3. Division 7 Section "Sheet Metal Flashing and Trim".
 4. Division 22 Section "Plumbing Piping".

1.04 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing Manual" for definition of terms related to roofing work in this Section.
- B. Existing Membrane Roofing Systems: Asphalt membranes, rigid insulation(s), and components and accessories above concrete roof decks.
- C. Substrate Board: Rigid board or panel products placed over the roof deck that serve as thermal barriers, provide a smooth substrate, or serve as a component of a fire-resistance-rated roofing system
- D. Roof Tear-Off: Removal of existing roofing system from deck up.

- E. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- F. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.05 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Temporary Roofing: Include Product Data and description of temporary roofing system. If temporary roof will remain in place, submit surface preparation requirements needed to receive permanent roof, and submit a letter from roofing membrane manufacturer stating acceptance of the temporary membrane, and that its inclusion will not adversely affect the roofing system's resistance to fire and wind.
- C. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces that might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.

1.06 QUALITY ASSURANCE

- A. Reroofing Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with Owner; Architect, Roofing Installer including Project Manager, Superintendent, and Foreman.
 - 2. Review methods and procedures related to reroofing preparation, including membrane roofing system manufacturer's written instructions.
 - 3. Review temporary protection requirements related to reroofing operations.
 - 4. Review roof drainage during each stage of reroofing and review roof drain plugging and plug removal procedures.
 - 5. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 6. Review procedures to determine condition and acceptance of existing deck substrate for reuse.
 - 7. Review structural loading limitations of deck during reroofing.
 - 8. Review special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.
 - 9. Review HVAC shutdown and sealing of air intakes.
 - 10. Review shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - 11. Review procedures for unexpected discovery of asbestos-containing materials.
 - 12. Review existing conditions that may require notification of Architect before proceeding.
 - 13. Combine meeting discussion items with those listed in Section 07 53 23.

1.07 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours notice of activities that may affect Owner's operations.
 - 1. Coordinate work activities daily with Owner. Contractor to place protective dust or water leakage covers (6-mil polyethylene) over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area if desired.
 - 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated prior to proceeding with work over the impaired deck area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, doorways, corridors, and other adjacent occupied or used facilities.
- D. Owner assumes no responsibility for condition of areas to be reroofed.
- E. Limit construction loads on roof to 100 lbs/wheel for rooftop equipment wheel loads and 60 lbs/sq. ft. for uniformly distributed, temporary loads.
- F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.

PART 2 PRODUCTS

2.01 TEMPORARY ROOFING MATERIALS

- A. Self-Adhering Membrane (SAM), sloped roofs: Grace Ice and Water Shield by W. R. Grace & Co., or approved equal.

2.02 AUXILIARY REROOFING MATERIALS

- A. General: Auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new membrane roofing system.

PART 3 EXECUTION

3.01 PREPARATION

- A. Protect existing membrane roofing system that is indicated not to be reroofed, where work or traffic will occur and could damage roof system.

- B. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- C. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
- E. Verify that rooftop utilities and service piping have been shut off before commencing Work.

3.02 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed.
- B. Low sloped roof removal: Remove asphalt membrane, flashings, rigid insulation, vapor retarders, substrate boards, and other roof components from the concrete deck and discard.
 - 1. Remove any fasteners from the deck, except verify that fasteners are not supporting items under the roof deck. If fasteners are structural fasteners or structural supports, leave them undisturbed and install new roof products over them.
 - 2. Vacuum dust and debris from the roof deck after the roof membrane and underlayment removal process is complete.
 - 3. Coordinate with Owner's representative to schedule times for deck inspections immediately after membrane removal.
- C. Remove excess asphalt, if any, from prior roofing.

3.03 DECK PREPARATION

- A. Inspect deck after tear-off of membrane roofing system.
 - 1. Verify that the roof deck surface is sound, dry, and suitable for reroofing.
- B. If deck surface is not suitable for receiving new roofing, or if structural integrity of deck is suspect, immediately notify Owner. Do not proceed with installation until directed by Owner.

3.04 EXISTING BASE FLASHINGS

- A. Remove all existing base flashings around parapets, curbs, walls, and penetrations.
 - 1. Clean substrates of contaminants such as asphalt, glue, sheet materials, dirt and debris.
- B. Do not damage metal counterflashings that are to remain.
- C. Inspect parapet sheathing for deterioration and damage where it is to remain. If parapet sheathing or framing has deteriorated, immediately notify Architect.
- D. Where parapet sheathing is indicated for removal, immediately notify Architect if parapet framing is deteriorated.
- E. Install new pressure-preservative treated plywood sheathing.
 - 1. Plywood parapet sheathing is specified in Division 6 Section "Rough Carpentry."

3.05 DISPOSAL

- A. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site will not be permitted.
- B. Transport demolished materials off the Owner's property and legally dispose of them.

END OF SECTION

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes the following:

1. Factory Mutual (FM) Approved prefinished steel coping with concealed splice plates and protective flashings at all perimeter parapet and interior parapet locations indicated on the drawings. If this alternate bid item is awarded, the FM Approved coping and parapets material is to be procured and installed in lieu of the Sheet Metal Flashings and Trim specified in Section 07 62 00.

- B. Related Work Sections include the following:

1. Division 6 Section "Rough Carpentry".
2. Division 7 Section "EPDM Membrane Roofing".
3. Division 7 Section "Joint Sealants".

1.04 SYSTEM DESCRIPTION

- A. Work of this Section is to physically protect parapets, from wind and water damage that would permit roof system wind failure and water leakage to building interior, or into roof insulation.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Fabricator must provide a current Factory Mutual tested and approved prefinished steel parapet system including fasteners matching the dimensional profiles shown in the drawings. FM approved systems are listed on the FM www.roofnav.com website. Wind performance standard for all of parapets for the entire project is: 108 psf (per wind load chart on S1.1)

- B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings or by FM Global Approval.

- C. Applicator: Company specializing in sheet metal flashing work with three years minimum experience. Provide documentation stating the above.
- D. Prefinished Metal Supplier: Company specializing in coil coating and fabrication of commercial flashings with five years minimum experience. Provide documentation stating the above.

1.06 SUBMITTALS

- A. Product data: For each type of product indicated. Provide current FM Global Approval for parapet coping system provided.
- B. Submit sample of the finish warranty and submit the final warranty signed by the manufacturer.
- C. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work. Include the following:
 - 1. Identification of material, thickness, weight, and finish for each item and location in Project.
 - 2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
 - 3. Details for joining, supporting, and securing sheet metal flashing and trim, including layout of fasteners, cleats, clips, and other attachments.
 - 4. Details of special conditions.
 - 5. Details of connections to adjoining work.
- D. Samples for initial selection: Provide two each per color 2-inch x 2-inch minimum sized sample of prefinished metal illustrating typical material, and finish, for color selection by ARCHITECT.

1.07 STORAGE AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

1.08 WARRANTY

- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
- C. Prefinished Metallic-Coated Steel Sheet: Restricted flatness steel sheet, metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, structural quality.
 - 2. Surface: Smooth, flat.
 - 3. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 4. Color: Color selection to be by ARCHITECT from the manufacturer's full range.
 - 5. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
 - 6. Manufacturers:
 - a. ColorKlad by Ryerson.
 - b. AEP Span.
 - c. Firestone.
 - d. Metal Sales.
 - e. Approved equal.
- D. For specific sheetmetal thickness use the gauge indicated. See also the schedule at the end of this section.

2.02 UNDERLAYMENT MATERIALS

- A. Self-Adhering, Self Adhering Membrane: W.R. Grace & Co. "Ice and Water Shield" or approved equal.

2.03 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Factory Mutual Approved stainless steel blind fasteners or self-drilling screws, gasketed, with hex-washer head.

- a. Exposed Fasteners: Stainless steel with heads matching color of sheet metal using factory-applied coating, with soft EPDM gaskets.
- b. Blind Fasteners: High-strength stainless-steel rivets suitable for metal being fastened.

C. Solder:

- 1. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.

D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight. See Section 07 92 00.

2.04 FABRICATION, GENERAL

A. General: Fabricate Factory Mutual Approved sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.

- 1. Fabricate sheet metal flashing and trim in thickness or weight as indicated in Factory Mutual Approved system.
- 2. Obtain field measurements for accurate fit before shop fabrication.
- 3. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- 4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

D. Fabricate hold down cleats and starter strips of galvanized steel sheet, minimum 2 inches wide, interlockable with sheet.

E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

F. Do not use graphite pencils to mark galvanized metal surfaces.

G. Form pieces in longest practical lengths.

H. Hem exposed edges on underside minimum 1/2-inch; miter and seam corners.

I. Fabricate vertical faces with bottom edge formed outward 3/4-inch and hemmed to form drip.

2.05 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof-Edge Fascia Cap: Fabricate in minimum 96-inch long, but not exceeding 10-foot-long, sections.
1. Fascia Profile: As indicated.
 2. Joint Style: Butt, with minimum 12-inch-wide, concealed backup plate.
 3. Material: Pre-finished Aluminum-Zinc Alloy-Coated Steel: 24-gauge.
- B. Copings: Fabricate in minimum 96-inch-long, but not exceeding 10-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg. Miter corners, seal watertight.
1. Coping Profile: As indicated.
 2. Joint Style: Butt, with minimum 12-inch-wide, concealed backup plate.
 3. Material: Pre-finished Aluminum-Zinc Alloy-Coated Steel: 24-gauge.
 4. Wind cleats: 22 gauge.
- C. Counterflashings, trim and miscellaneous flashing: Fabricate as indicated from the following materials:
1. Pre-finished Aluminum-Zinc Alloy-Coated Steel: 24-gauge.
- D. Roof-Penetration Flashing: Air vents 8-inches or larger in diameter: Fabricate from the following materials:
1. Galvanized steel: 24-gauge.
 2. Waterproofing over steel flashing: Refer to Section 07 53 23.
- E. Roof-Penetration Flashing: VTR pipes, conduits, with less than 8-inch diameter: Fabricate from the following materials:
1. EPDM flashing: Refer to Section 07 53 23

2.06 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in wall construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch high, end dams. Fabricate from the following materials:

1. Pre-finished Aluminum-Zinc Alloy-Coated Steel: 24 gauge thick.

2.07 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in wall construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch high, end dams. Fabricate from the following materials:

1. Pre-finished Aluminum-Zinc Alloy-Coated Steel: 24 gauge thick.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION

- A. Verify conditions and critical dimensions affecting fabrication and installation of work of this Section.
- B. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, and cant strips in place, and nailing strips located.
- C. Verify membrane termination and base flashings are in place, sealed, and secure.
- D. Verify that self-adhering membrane has been installed over the top of all curbs and parapets.
- E. Beginning of installation means acceptance of existing conditions.

3.02 UNDERLAYMENT INSTALLATION

- A. General: Install underlayment as indicated on Drawings.
- B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Apply primer if required by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

3.03 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 3. Space cleats not more than 12 inches apart. Anchor each cleat with a minimum of two fasteners.
 - 4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
 - 5. Torch cutting of sheet metal flashing and trim is not permitted.
 - 6. Do not use graphite pencils to mark bare metal surfaces.
- B. Metal Protection: Sheet metal flashing and trim is to be separated with self adhering material when in contact with aluminum, preservative treated wood, cementitious construction or other corrosive substrates.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently

watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.

- D. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws or greater depths as required for Factory Mutual Approved system.
- E. Seal joints as shown and as required for watertight construction.
 - 1. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants"
- F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches.
 - 1. Do not solder Pre-Finished Aluminum-Zinc Alloy-Coated Steel.
 - 2. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.04 INSTALLATION

- A. Conform to approved shop drawing details.
- B. All flashings shall be sloped to drain positively, minimum 1/4-inch per foot.
- C. Install hold down cleats before starting installation.
- D. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations shown. The use of fasteners which penetrate low-sloped horizontal surfaces of metal flashings will not be accepted.
- E. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles and installation weathertight.
- F. Copings: Anchor to resist uplift and outward forces according to recommendations in Factory Mutual Approved system or SMACNA's "Architectural Sheet Metal Manual", whichever is more stringent, and as indicated.
 - 1. At coping, install coping pieces with 1/8-inch expansion allowance between ends.
 - 2. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 12-inch centers.
- G. At flashing assemblies supporting fans, hoods, flues and similar items on top of curbs and parapets, fabricate flashing assembly to maintain positive drainage and support superimposed loads.
- H. Stack Counterflashing: Install counterflashing umbrella with close-fitting collar above the flashing. Flare the top edge for elastomeric sealant. Extend umbrella a minimum of 4 inches over base flashing. Install a bead of elastomeric sealant around the pipe or post at the top edge of the collar.
- I. Pipe or Post Counter-flashing, 12-inches or less than diameter: Install counterflashing umbrella above top of flashing with close-fitting collar extending a minimum of 4-inches over base flashing. Install a bead of elastomeric sealant around the pipe or post at the top edge of the

umbrella.

- J. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with sealant, and secure 24-inches on center or as indicated, unless otherwise noted.
- K. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof as indicated. Install watertight cap to flashing as indicated. Secure cap to flashing with stainless steel screws.

3.05 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings or as indicated.

3.06 MISCELLANEOUS FLASHING INSTALLATION

- A. Mechanical Curb Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Seal flashing with elastomeric sealant to equipment support member.

3.07 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

ROOF ACCESSORIES

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.03 SUMMARY

- A. Section Includes the following:
 1. Non-Penetrating Roof Top Supports
 2. Roof Access Hatches and Fall Protection Railing
 3. Ladder Tie-Off Eye Bolts
 4. Vent Through Roof (VTR) and Fall Protection Post Flashing
- B. Related Sections include the following:
 1. Division 5 Section "Cold-Formed Metal Framing".
 2. Division 6 Section "Rough Carpentry".
 3. Division 7 Section "EPDM Membrane Roofing".
 4. Division 7 Section "Sheet Metal Flashing and Trim".

1.04 REFERENCE STANDARDS

- A. 29 CFR 1910.23 - Ladders; current edition.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.
- E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.
- F. FM (AG) - FM Approval Guide; current edition.
- G. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2009.
- H. UL (DIR) - Online Certifications Directory; Current Edition.

1.05 SUBMITTALS

- A. See Division 1 – Submittals, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used.
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Maintenance requirements.
- C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.
- D. Warranty Documentation:
 - 1. Submit manufacturer warranty.
 - 2. Ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 WARRANTY

- A. See Division 1 – Project Closeout, for additional warranty requirements.
- B. Correct defective Work within a five-year period after Date of Substantial Completion.

PART 2 - PRODUCTS**2.01 NON-PENETRATING ROOFTOP SUPPORTS / ASSEMBLIES****2.02 ROOF ACCESS HATCHES AND FALL PROTECTION RAILING**

- A. Non-Penetrating Rooftop Support/Assemblies: Manufacturer-engineered and factory-fabricated, with pedestal bases that rest on top of roofing membrane and not requiring any attachment to roof structure and not penetrating roofing assembly.
 - 1. Design Loadings and Configurations: As required by applicable codes.
 - 2. Height: Provide minimum clearance of 6 inches (152 mm) under supported items to top of roofing.
 - 3. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
 - 4. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
 - 5. Hardware, Bolts, Nuts, and Washers: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A153/A153M.
- B. Pipe Supports: Provide attachment fixtures complying with MSS SP-58 and as indicated.
 - 1. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports; corrosion resistant material.
 - 2. See relevant piping system specification section for additional requirements.

2.03 ROOF ACCESS HATCHES

- A. Roof Hatch Manufacturers:

1. Kattsafe; Type S - Ladder Access: Web <https://www.kattsafe.com>.
 2. Dur-Red Products; www.dur-red.com.
 3. Milcor, Inc; www.milcorinc.com.
 4. Substitutions: See Section 01600 - Product Requirements.
- B. Roof Hatch: Factory-assembled aluminum frame and cover, complete with operating and releasing hardware.
1. Style: Provide flat metal covers unless otherwise indicated.
 2. Mounting: Provide frames and curbs suitable for mounting conditions as indicated on drawings.
 3. Size: Ladder Access: Single leaf; 30 by 36 inches.
- C. Frames and Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
1. Material: Mill finished aluminum, 11 gage, 0.0907 inch thick.
 2. Insulation: Manufacturer's standard; 1-inch rigid glass fiber, located on outside face of curb.
 3. Curb Height: 12-inches from finished surface of roof, minimum.
- D. Metal Covers: Flush, insulated, hollow metal construction.
1. Capable of supporting 40 psf live load.
 2. Material: Mill finished aluminum; outer cover 11 gage, 0.0907 inch thick, liner 0.04 inch thick.
 3. Insulation: Manufacturer's standard 1 inch (25 rigid glass fiber).
 4. Gasket: Neoprene, continuous around cover perimeter.
- E. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
 2. Hinges: Heavy duty pintle type.
 3. Hold open arm with vinyl-coated handle for manual release.
 4. Latch: Upon closing, engage latch automatically and reset manual release.
 5. Manual Release: Pull handle on interior.
 6. Provide "Ladder Up" telescoping vertical man grip to extend +38" above top of hatch curb. Extension to auto latch into extended position with retraction latch at top ladder rung.
 7. Provide OSHA approved, corrosion resistant self-contained roof top hatch fall-protection guard railing and automatic close gate like or matching items specified in Section 05 52 13.
 8. Locking: Padlock hasp on interior.

2.04 ROOF HATCH GUARDRAIL

Basis of Design: Kattsafe Aluminum Roof Hatch Guardrail System by Kattsafe. A fixed railing system providing permanent fall protection for hatch openings. Available in multiple sizes and can fit most existing hatches or installed on the Kattsafe Roof Hatch. A clamping system eliminates the need to drill holes into the hatch or roof surface, jeopardizing the roof warranty. Installs in minutes with basic tools.

Sizes: Standard roof hatch sizes available in stock. Can be custom made to fit irregular

roof hatch sizes.

Color: Safety Yellow Standard. Powder Coating Available.

OSHA Compliance: 1910.28(b)(3)(i), 1910.28(b)(3)(iv)

Warranty: 10 years. Does not include moving parts.

Exit Types: Front, front1, front2, left, or right.

Roof Hatch Flange Length: 36-inch.

Roof Hatch Flange Width: 30 inches.

Self-closing gate.

Grabrails.

Handrail Tubing: 2-inch round, Aluminum 6106-T6.

No. 10 x 5/8-inch Stainless Steel Self tapping screws: Two per post.

Handrail end caps/

Kneerail Tubing: 1-5/8-inch round Aluminum 6061-T6.

No. 12 x 2-inch Stainless Steel Self tapping screws: Two per post.

Clamping System Frame: Kattsafe.

2.05 LADDER TIE-OFF EYE BOLTS

- A. Parapet mounted ladder tie-off bolts. Hot dipped galvanized. See drawings for size, quantity and mounting locations. Provide parapet internal blocking (pressure treated).

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.04 CLEANING

- A. Clean installed work to like-new condition.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

JOINT SEALANTS

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Vapor Retarder Sealants
 - 5. Fire Rated Sealants
 - 6. Acoustical joint sealants.
- B. Related Requirements:
 - 1. Division 7 Section "Sheet Metal Flashing and Trim".
 - 2. Division 7 Section "EPDM Roofing"
 - 3. Division 7 Section "Metal Wall Panels".
 - 4. Division 9 Section "Acoustical Ceilings".

1.04 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

- D. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- F. Warranties: Sample of special warranties.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

1.06 PROJECT CONDITIONS

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

1.07 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food; provide products that comply with 21 CFR 177.2600.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.02 SILICONE JOINT SEALANTS (Not Allowed for Roof Penetrations and Roof Flashings)

- A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Omniplus.
 - b. Dow Corning Corporation; 786 Mildew Resistant.

- c. GE Advanced Materials - Silicones; Sanitary SCS1700.
- d. May National Associates, Inc.; Bondaflex Sil 100 WF.
- e. Tremco Incorporated; Tremsil 200 Sanitary.
- f. Approved Equal.

2.03 URETHANE JOINT SEALANTS (All Exterior Roof Penetrations, Flashing and Brick Tile joint Work)

- A. Multicomponent, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 50, for Use T.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Polymeric Systems, Inc.; PSI-270.
 - b. Tremco Incorporated; Dymeric 240 FC.
 - c. Approved Equal.
- B. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Sika Corporation, Construction Products Division; Sikaflex - 15LM.
 - b. Tremco Incorporated; Vulkem 921, Dymonic FC.
 - c. Approved Equal.

2.04 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. May National Associates, Inc.; Bondaflex 600, Bondaflex Sil-A 700.
 - d. Pecora Corporation; AC-20+.
 - e. Schnee-Morehead, Inc.; SM 8200.
 - f. Tremco Incorporated; Tremflex 834.
 - g. Approved Equal.

2.05 ACOUSTICAL AND VAPOR RETARDER JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Pecora Corporation; AC-20 FTR, AIS-919.
 - b. USG Corporation; SHEETROCK Acoustical Sealant.
 - c. Approved Equal.

2.06 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.07 MISCELLANEOUS MATERIALS

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

PART 3 - EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 - 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 - 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
- G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.04 FIELD QUALITY CONTROL

- A. Testing:
 - 1. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 - 2. Inspect tested joints and report on the following:

- a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
3. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
 4. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.05 CLEANING

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

3.06 PROTECTION

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

3.07 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Joints between metal panels.
 - b. Joints between different materials indicated.
 - c. Perimeter joints between materials listed above and frames of doors windows and louvers.
 - d. Control and expansion joints in ceilings and other overhead surfaces.
 2. Urethane Joint Sealant: Single component, nonsag, Class 100/50.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Urethane Joint Sealant: Multicomponent, nonsag, traffic grade, Class 50.
 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.

- b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors windows.
 - e. Other joints as indicated.
- 2. Joint Sealant: Acrylic based paintable latex.
- 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Other joints as indicated.
 - 2. Joint Sealant: Mildew resistant, single component, nonsag, acid curing, Silicone.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- E. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Location:
 - a. Acoustical joints where indicated.
 - b. Other joints as indicated.
 - 2. Joint Sealant: Acoustical.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION

ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SUMMARY

- A. Section Includes:
 - 1. Fire-rated access doors and frames.
 - 2. Insulated exterior access doors and frames.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of access door and frame and for each finish specified.
- C. Product Schedule: For access doors and frames.

1.04 CLOSEOUT SUBMITTALS

- A. Record Documents: For fire-rated doors, list of applicable room name and number in which access door is located.

1.05 QUALITY ASSURANCE

- A. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies meets the qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

PART 2 - PRODUCTS

2.01 INSULATED EXTERIOR ACCESS DOORS AND FRAMES

- A. Exterior Flush Access Doors with Exposed Flanges.

1. Description: Weatherproof assembly, with face of door fit flush with frame and with exposed frame. Include extruded door gaskets and nominal 1-3/4 inch thick closed-cell polyurethane insulation.
2. Frame to accommodate cement stucco finish over light gage metal stud frame installation.
3. Locations/Quantity: Entry soffits; locations as shown on drawings.
4. Door Size: 30"x36"
5. Material/Finish:
 - a. Door: Aluminum; nominal 0.040 inch, 18 gauge, mill finish.
 - b. Frame: Extruded Aluminum, .080 inch 6063-T5, mill finish.
6. Hinges: Concealed, continuous, stainless steel piano hinge.
7. Latch and Lock: Mortise lock with handle.
8. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A153/A153M or ASTM F2329.

B. Flush Access Doors with Exposed Flanges

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. JL Industries, Inc.; a division of Activar Construction Products Group.
 - b. Larsens Manufacturing Company.
 - c. MILFAB, Inc.
 - d. Milcor, Commercial Products Group of Hart & Cooley, Inc.
 - e. Approved equal.
2. Description: Face of door flush with frame, with concealed flange for gypsum wallboard installation and concealed hinge.
3. Locations: Ceiling.
4. Uncoated Steel Sheet for Door: Nominal 0.060 inch, 16 gage, factory finished. Colors selected from Manufacturer standard colors.
5. Metallic-Coated Steel Sheet for Door: Nominal 0.064 inch, 16 gage, factory finished.
6. Frame Material: Same material, thickness, and finish as door.
7. Latch and Lock: Cam latch, screwdriver operated.

2.02 FIRE-RATED ACCESS DOORS AND FRAMES

- A. Fire-Rated Access Doors and Frames: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection and temperature-rise limit ratings indicated, according to NFPA 252 or UL 10B.
- B. Fire-Rated, Flush Access Doors with Exposed Flanges.:
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. JL Industries, Inc.; a division of Activar Construction Products Group.
 - b. Larsens Manufacturing Company.

- c. MILFAB, Inc.
 - d. Milcor, Commercial Products Group of Hart & Cooley, Inc.
 - e. Approved equal.
- 2. Description: Door face flush with frame, uninsulated with exposed flange, self-closing door, and concealed hinge.
 - 3. Locations: Ceiling.
 - 4. Fire-Resistance Rating: Not less than 1 hour.
 - 5. Metallic-Coated Steel Sheet for Door: Nominal 0.040 inch, 20 gage] <Insert thickness>, factory finished.
 - 6. Frame Material: Same material, thickness, and finish as door.
 - 7. Latch and Lock: Self-latching door hardware, **operated by Cam latch, screwdriver**

2.03 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- B. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A879/A879M, with cold-rolled steel sheet substrate complying with ASTM A1008/A1008M, Commercial Steel (CS), exposed.
- C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with minimum A60 (ZF180) metallic coating.
- D. Frame Anchors: Same material as door face.
- E. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A153/A153M or ASTM F2329.

2.04 FABRICATION

- A. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- B. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.
- C. Latch and Lock Hardware:
 - 1. Quantity: Furnish number of latches and locks required to hold doors tightly closed.

2.05 FINISHES

- A. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
 - 1. Factory Primed: Apply manufacturer's standard, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.
 - 2. Factory Finished: Apply manufacturer's standard baked-enamel or powder-coat finish immediately after cleaning and pretreating, with minimum dry-film thickness of 1 mil for topcoat.

- a. Color: As selected by Architect from full range of industry colors.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.
- B. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SUMMARY

- A. This Section includes the following:
1. Performance criteria for gypsum board assemblies.
 2. Metal stud wall framing.
 3. Gypsum wallboard.
 4. Joint treatment and accessories.
- B. Related Sections include the following:
1. Division 7 Section "Building Insulation":

1.03 REFERENCE STANDARDS

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)
- B. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2011.
- C. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2011.
- D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002 (Reapproved 2007).
- E. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2011a.
- F. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- G. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Product; 2011.
- H. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2011.
- I. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. to 0.112 in. in Thickness; 2011.

- J. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.
- K. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing; 2012.
- L. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2011.
- M. ASTM C1629/C1629 - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2006.
- N. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2012.
- O. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- P. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.
- Q. ASTM E413 - Classification for Rating Sound Insulation; 2010.
- R. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2010.
- S. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2009.
- T. ICC (IBC) - International Building Code; 2012.
- U. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.

PART 2 - PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. See PART 3 for finishing requirements.
- B. Interior Partitions Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC of 50-54 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
- C. Fire Rated Assemblies: Provide completed assemblies complying with applicable code.
 - 1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
 - 2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
 - 3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL Fire Resistance Directory.
- D. Gypsum Shaftliner Board:
 - 1. Moisture- and Mold-Resistant Type X: ASTM C1396/C1396M; manufacturer's proprietary fire-resistive liner panels with ASTM D3273 mold-resistance score of 10 as rated in accordance with ASTM D3274, 1 inch thick, and with double beveled long edges.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide CertainTeed Gypsum; Saint-Gobain; M2Tech Shaftliner Type X or comparable product by one of the following:

- 1) Georgia-Pacific Gypsum LLC.
 - 2) National Gypsum Company.
 - 3) USG Corporation.
 - 4) Approved equal.
2. Moisture- and Mold-Resistant, Fiberglass-Mat Faced: ASTM C1658/C1658M; manufacturer's proprietary fire-resistive liner panels with ASTM D3273 mold-resistance score of 10 as rated in accordance with ASTM D3274, 1 inch (25.4 mm) thick, and with double beveled long edges.
- a. Basis-of-Design Product: Subject to compliance with requirements, provide CertainTeed Gypsum; Saint-Gobain; GlasRoc Shaftliner Type X or comparable product by one of the following:
- 1) Georgia-Pacific Gypsum LLC.
 - 2) USG Corporation.

2.02 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; tapered edges, ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Glass-mat-faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 3. Thickness:
 - a. Vertical Surfaces: 5/8 inch.
 - b. Ceilings: 5/8 inch.

2.03 ACCESSORIES

- A. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
- B. Screws for Attachment to Steel Members Less Than 0.03 inch (0.7 mm) In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type ; cadmium-plated for exterior locations.
- C. Screws for Attachment to Steel Members From 0.033 to 0.112 inch (0.8 to 2.8 mm) in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

PART 3 – EXECUTION

3.01 EXAMINATION

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

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs as permitted by standard.

1. Extend partition framing to structure where indicated and to ceiling in other locations.
 2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
 3. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
- C. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.
1. Orientation: Horizontal.
- D. Furring for Fire Ratings: Install as required for fire resistance ratings indicated and to GA-600 requirements.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- C. Do not bridge building expansion joints with shaft wall assemblies; frame both sides of expansion joints with furring and other support.
- D. Install supplementary framing in gypsum board shaft wall assemblies around openings and as required for blocking, bracing, and support of gravity and pullout loads of fixtures, equipment, services, heavy trim, furnishings, wall-mounted door stops, and similar items that cannot be supported directly by shaft wall assembly framing.
1. Reinforcing: Provide where items attach directly to shaft wall assembly as indicated on Drawings; accurately position and secure behind at least one layer of face panel.
- E. Shaftliner Joints: Joint compound to comply with ASTM C475.
1. No treatment of joints to be done until interior temperature has been maintained at a minimum of 50 deg F for at least 48 hours prior to joint treatment.
 2. Provide adequate ventilation during finishing of joints.
 3. No finishing is required on the shaft side of partition.
- F. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.

3.05 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 1: Fire rated wall areas above finished ceilings and in wall assemblies, whether or not accessible in the completed construction.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.07 PROTECTION

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

END OF SECTION

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 NOTIFICATIONS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.03 REFERENCE STANDARDS

- A. ASTM C635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2007.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 2008.
- C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2011.
- D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2008e1.
- E. GEI (SCH) - GREENGUARD "Children and Schools" Certified Products; GREENGUARD Environmental Institute; current listings at www.greenguard.org.
- F. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Sequence work to ensure acoustical ceilings are not installed until dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

- A. See Division 1 for submittal procedures.
- B. Product Data: Provide data including suspension system components.

- C. Samples: Submit two samples 4x4 inches illustrating material/finish of acoustical units, and 4 inches long of suspension system main runner.
- D. Manufacturer's Installation Instructions: Indicate special procedures.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1.06 FIELD CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART - 2 PRODUCTS

2.01 CEILING SYSTEM

A. Manufacturers:

1. Armstrong, www.armstrong.com; BASIS OF DESIGN - "Optima" (non-regular)
2. Hunter Douglas Contract, www.hunterdouglascontract.com.
3. USG, www.usg.com.
4. Alternate Brand Request or Substitution Request required per Section 01630.
5. Acoustical Units - General: ASTM E1264, Class A.
6. Acoustical Tile: Painted mineral fiber, ASTM E1264 Type III, with the following characteristics:
 - a. VOC Content: Certified as Low Emission by one of the following:
 - 1) GreenGuard Children and Schools; www.greenguard.org.
 - (a) Size: 24 x 24 inches, or as required to fit application.
 - (b) Thickness: 1 inch.
 - (c) Composition: Wet-formed mineral fiber.
 - (d) Light Reflectance: 0.90, determined as specified in ASTM E1264.
 - (e) NRC: 0.90-1.00, determined as specified in ASTM E1264.
 - (f) Articulation Class (AC): 190, determined as specified in ASTM E1264.
 - (g) Edge Profile: Square Lay-in 15/16.
 - (h) Texture: Fine
 - (i) Surface Finish: DuraBrite with factory applied latex paint.
 - (j) Surface Color: White.

2.02 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
- B. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according

to ASTM E 488 or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.

- a. Type: Postinstalled expansion anchors.
 - b. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (0.005 mm) for Class SC 1 service condition.
2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190, conducted by a qualified testing and inspecting agency.
- C. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
 3. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
 4. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.135-inch- (3.5-mm-) diameter wire.
- D. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.
- E. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch- (1-mm-) thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation; with bolted connections and 5/16-inch- (8-mm-) diameter bolts.
- F. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
- G. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.
- H. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical panels in place.
- I. Hold-Down Clips: Where indicated, provide manufacturer's standard hold-down clips spaced 24 inches (610 mm) o.c. on all cross tees.
- J. Ceiling Fascia Trim. Where indicated in the drawings provide a factory fabricated 4" high metal fascia matching color and finish of the ceiling grid. Basis of Design: Armstrong Axiom.

2.03 METAL SUSPENSION SYSTEM(S)

- A. Manufacturers:
1. Armstrong, www.armstrong.com; BASIS OF DESIGN - "Prelude XL"
 2. Hunter Douglas Contract, www.hunterdouglascontract.com.
 3. USG, www.usg.com.
 4. Alternate Brand Request or Substitution Request required.
- B. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized

according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation; with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.

1. Structural Classification: Heavy-duty system.
 2. End Condition of Cross Runners: Override (stepped) type.
 3. Face Design: Flat, flush.
 4. Cap Material: aluminum cold-rolled sheet.
 5. Cap Finish: as selected from manufacturer's full range.
- C. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners unless otherwise indicated.
 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
 3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- D. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation; with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.
1. Structural Classification: Heavy-duty system.
 2. End Condition of Cross Runners: Override (stepped) type.
 3. Face Design: Flat, flush.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- C. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- D. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

- E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- F. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- G. Do not eccentrically load system or induce rotation of runners.
- H. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Make field cut edges of same profile as factory edges.

3.04 INSTALLATION - PRIVACY CURTAIN TRACK

- A. Install track and curtain units in accordance with manufacturer's instructions.

3.05 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

PAINTING AND COATING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes the following:
 - 1. Surface preparation.
 - 2. Field application of paints, stains, varnishes, and other coatings.
 - 3. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
 - a. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
 - b. Mechanical and Electrical:
 - 1) In finished areas, paint all new and existing unpainted insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
 - 2) In finished areas, paint shop-primed items.
 - 3) Paint all exposed exterior new pipes, conduits and boxes and attachment devices that are not factory finished.
 - 4. Do Not Paint or Finish the Following Items:
 - a. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - b. Items indicated to receive other finishes.
 - c. Items indicated to remain unfinished.
 - d. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - e. Stainless steel, anodized aluminum, bronze, terne, and lead items.
 - f. Floors, unless specifically so indicated.

- g. Glass.
 - h. Concealed pipes, ducts, and conduits.
- B. Related Sections include the following:
- 1. Section 05 50 00 - Metal Fabrications: Shop-primed items.
 - 2. Section 09 21 16 – Gypsum Board Assemblies

1.04 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.05 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2012.
- C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.
- D. GreenSeal GS-11 - Paints; 1993.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
 - 4. Manufacturer's installation instructions.
 - 5. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as flooring and plastic laminate, have been approved.
- D. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.
- E. ICC Test Reports: For Intumescent Paint compatibility with polyurethan foam.
- F. Manufacturer's Instructions: Indicate special surface preparation procedures.
- G. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01600 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Coatings: 1 gallon of each color; store where directed.
 - 3. Label each container with color in addition to the manufacturer's label.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
 - 1. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
- C. Paints:
 - 1. Basis of Design Manufacturer: Sherwin-Williams Company: www.sherwin-williams.com.
 - 2. Approved Equal
- D. Primer Sealers: Same manufacturer as topcoats.
- E. Substitutions: See Section 01630 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content:
 - 1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- D. Colors: As indicated on drawings
 - 1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Paint ME-OP-2A - Ferrous Metals, Primed, Alkyd, 2 Coat:
 - 1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.
 - 2. Semi-gloss: Two coats of alkyd enamel.

2.04 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - All Interior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including gypsum board, shop primed steel, and galvanized steel.
 - 1. Two top coats and one coat primer.
 - 2. Top Coat(s): MPI Institutional Low Odor/VOC Interior Latex; MPI #143-148.
 - 3. Satin: MPI gloss level 4; use this sheen for items subject to frequent touching by occupants, including door frames and railings.
 - 4. Top Coat Product(s):
 - a. Basis of Design: Sherwin-Williams ProMar 200 Zero VOC Interior Latex.
 - 5. Primer(s): As recommended by manufacturer of top coats.

2.06 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

- D. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing coatings that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Concrete Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- H. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- I. Insulated Coverings to be Painted: Remove dirt, grease, and oil from canvas and cotton.
- J. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
- K. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- L. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
- M. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Apply products in accordance with manufacturer's instructions.
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.
- E. Sand metal surfaces lightly between coats to achieve required finish.
- F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

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

3.04 FIELD QUALITY CONTROL

- A. See Section 01400 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

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

3.06 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Touch-up damaged coatings after Substantial Completion.

END OF SECTION

COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Wet Pipe Sprinkler System.
- B. System Design, Materials, Installation, Certification.

1.03 SCOPE DESCRIPTION

- A. Replace standard pipe couplings installed on sprinkler riser mains with flexible pipe couplings to comply with NFPA seismic requirements. No new piping, sprinkler heads, or modifications to the existing sprinkler system is required.

1.04 CODES AND STANDARDS

- A. IBC Latest Adopted Edition.
- B. NEC Latest Adopted Edition.
- C. UPC Latest Adopted Edition.
- D. IMC Latest Adopted Edition.
- E. IFC Latest Adopted Edition.
- F. NFPA 13 Standard for the Installation of Sprinkler Systems, latest adopted edition.
- G. NFPA 25 Water-Based Fire Protection Systems, latest adopted edition.
- H. NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants, latest adopted edition.
- I. ASCE Standard 7, Minimum Design Loads for Buildings and Other Structures, latest adopted edition.

1.05 RELATED WORK

- A. Section 22 05 00 - Common Work Results for Plumbing.
- B. Section 23 05 00 - Common Work Results for HVAC.

1.06 REFERENCES

- A. AWWA C510 Backflow Prevention Devices reduced pressure type and double check valve type.
- B. USC University of Southern California: Foundation for Cross-connection Control and Hydraulic Research.

1.07 QUALITY ASSURANCE

- A. Unless otherwise noted, this is substantially a "performance" specification.
- B. Minimum qualifications of the contractor/subcontractor shall include the following:
 - 1. Specialist Firm: Company specializing in automatic fire protection/sprinkler systems, possessing a minimum of three years' experience with systems similar in nature to the type specified herein.
 - 2. Design Certification: Shop drawings shall be prepared by a person with a minimum certification of level II designer, supervised by a Licensed Professional Engineer or a level III or IV Fire Sprinkler Designer, certified by the National Institute for Certification in Engineering Technologies (NICET), in Fire Protection Engineering Technology Automatic Fire Sprinkler System Layout.
 - 3. Equipment and components: Bear the "UL" label or the "FM" approval marking.
 - 4. Maintain a complete stock of replacement parts.
 - 5. Remain on 24 hour call for emergency service.
 - 6. Maintain an office and telephone, with authorized representatives of the Fire Protection Contractor's firm, including the Designated Project Mechanical Sprinkler Supervisor, with a physical presence and address in Alaska.
 - 7. Bids of wholesalers, contractor or any firm whose principal business is not that of manufacturing and/or installing fire protection systems is not acceptable.

1.08 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Submit complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections.
- C. Submit contractor's qualifications, proof of 3 years' experience under this contractor's firm name, and references for at least 5 projects in Alaska of similar type, size, and complexity.
- D. Submit a copy of designer's NICET certification and resume', or Alaska P.E. license number.

- E. Submit all written reviews and contractor responses to reviews to the Architect/Engineer.
- F. Submit product data. All other approvals shall be secured prior to materials fabrication. Additional sprinklers as required shall be added at no additional cost to the contract.

1.09 REVIEWS, APPROVALS, AND PERMITS

- A. Obtain written review and/or approval of the entire fire protection system design and arrangement from the following authorities:
 - 1. Architect/Engineer.
 - 2. Municipality of Anchorage Fire Marshal.
 - 3. Owner's Insurance Underwriters.
- B. Comply with all review comments, revising the system design as required, and resubmitting in a timely manner, so as not to hinder the construction schedule.
- C. Obtain and pay for all required permits, inspections, tests, and approvals as required by authorities having jurisdiction.

1.10 COORDINATION REQUIRED

- A. The contractor shall examine the structural, architectural, mechanical, electrical and all other drawings relating to the building and plan his work accordingly. He shall check and verify all dimensions at the site before fabricating any portion of the system. Any discrepancies in piping and head locations resulting from failure to do so shall be corrected expeditiously to provide proper coordination of all trades.
- B. Structural penetrations for piping shall be identified and details of those penetrations shall be submitted to the structural engineer for approval, in a timely manner. Structural members which are damaged cut or penetrated without approval shall be replaced at no additional expense to the Owner.

1.11 MATERIALS HANDLING AND STORAGE

- A. Deliver, store, protect, and handle products to the site under provisions of Division 1. Deliver and store valves in manufacturer packaging with labeling in place. Prior to installation, piping onsite shall be wrapped with protective wrapping. Valves, piping, materials, and equipment shall be clean and new when system is accepted by the Owner.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide only new materials and equipment, which are standard products of a manufacturer regularly engaged in the manufacture of fire protection equipment.
- B. All products shall bear the "UL" label or "FM" listing and be specifically approved for fire protection application where they are used.

2.02 PIPING

A. Wet Pipe Sprinkler Systems:

1. Black steel piping, ASTM A135 schedule 10 or ASTM A795 schedule 40, UL Listed or FM Approved for fire sprinkler service.
2. Piping may be roll-grooved, threaded, flanged, or welded for connection. All threaded pipe shall be schedule 40. No plain-end piping fitting connections are allowed.

2.03 GROOVED FITTINGS, COUPLINGS, AND MECHANICAL TEES

- A. Grooved Fittings shall be Victaulic, Gruvlok, or equal. Galvanized fittings shall accompany galvanized piping. Couplings and mechanical tees shall be standard painted Victaulic, Gruvlok, or equal.
- B. Slip-Fit fittings and couplings utilized for joining branch piping to new main piping shall not be allowed.
- C. Contractor shall follow the manufacturer's suggested methods to prepare, carefully, the ends for these fittings to prevent leakage or system breakdown.

2.04 PIPING HANGERS AND SUPPORTS

- A. Pipe hangers shall conform to NFPA 13 standards.

PART 3 - EXECUTION

3.01 CONTRACTOR COORDINATION

- A. The fire protection contractor shall coordinate his work with the work of all other trades to assure timely installation and efficient use of mechanical areas including but not limited to boiler rooms, fan rooms, and ceiling spaces.
- B. Any work installed without proper coordination shall be promptly removed and reinstalled in a manner to allow for a good practical arrangement of all items which need to be installed by all crafts involved.
- C. In case of coordination dispute, the Architect/Engineer shall be consulted and his decision shall be binding.
- D. All costs associated with coordination and arranging or rearranging of the fire protection system shall be borne by the affected contractor, without causing any additional expense to the Owner.

3.02 PIPING INSTALLATION

- A. Provide seismic protection for the piping system in accordance with NFPA 13 standards. Attach bracing to structure with through bolts, washers, and nuts. Provide clearance at all structural penetrations. Provide oversized escutcheon plates or flexible connections where sprinklers penetrate non-frangible ceiling membranes.
- B. Piping concealed in walls shall be secured to studs 48" - 60" above the floor.

- C. Pipe penetrations through rated fire walls shall be sealed by a "UL" listed system utilizing fire rated caulking. Submit data under paragraph 1.8 (Submittals) of this specification.
- D. When piping is supported from manufactured structural members, the Installation of pipe hangers shall comply with truss manufacturer's recommendations for hanger attachments and loading.
- E. When pipe hangers are attached to bar joist with wood top and bottom chords, chords shall be predrilled for fasteners, and fasteners shall maintain a minimum distance of 0'-6" from truss "panel points".
- F. Pipe hangers shall be "Rod and Ring" type hangers throughout. Piping hangers shall have a minimum of ½" of adjustment on each side of the hanger ring nut, to allow for piping grade adjustment in the future.
- G. All "beam clamp" type fasteners shall be installed with retainer straps and locking nuts.
- H. All Trapeze members shall be fastened to truss chords or structural members.
- I. Provide service access around all equipment.

3.03 SYSTEM TEST

- A. Hydrostatically test the entire system in accordance with NFPA 13 standards.
- B. 48-hour advance notice required for all tests to allow Owner's field representative to witness these tests.

3.04 PAINTING

- A. Refer to Division 9.

3.05 PROJECT CLOSEOUT

- A. The fire protection contractor shall submit a written affidavit at the completion of the system, stating that the fire protection system as installed complies with all referenced codes and standards, Local Fire Marshal's Office, and the Owner's Insurance Underwriters.
- B. Furnish Written Guarantee to the Owner, that materials installations are free from mechanical defects and guaranteeing to replace and repair any and all unsatisfactory and defective work and items, to the satisfaction of the Owner, in a timely manner, for a period of one year after final acceptance of the building by the Owner, and to be responsible for any damage caused to the premises for any such unsatisfactory work.
- C. The contractor shall respond with in reasonable time, not to exceed 15 days to repair or replace latent or hidden defects at such time as they are discovered.
- D. Contractor shall fully train the Owner's designated maintenance engineer in the operation and maintenance of the entire fire protection system.

END OF SECTION

COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.03 WORK INCLUDED

- A. The work to be included in these and all other plumbing subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items shown on the drawings, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 1 of the specifications is to be specifically included as well as all related drawings.

1.04 RELATED WORK

- A. Related Work Specified Elsewhere:
 - 1. Heating, Ventilating and Air Conditioning (HVAC) Specifications: Division 23.
 - 2. Electrical Specifications: Division 26.
- B. Unless otherwise indicated on the electrical drawings or the electrical schedules, provide all plumbing equipment motors, motor starters, thermal overload switches, control relays, time clocks, thermostats, motor operated valves, float controls, damper motors, electric switches, electrical components, wiring and any other miscellaneous Division 22 controls. Disconnect switches are included in the electrical work, unless specifically called out on mechanical plans.
- C. Carefully coordinate all work with the electrical work shown and specified elsewhere.

1.05 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 70 National Electrical Code (NEC).
- B. IMC International Mechanical Code.
- C. UPC Uniform Plumbing Code.
- D. IECC International Energy Conservation Code.
- E. IBC International Building Code.

1.06 PROJECT RECORD DRAWINGS

- A. In addition to other requirements of Division 1, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building. Show exact dimensions of buried piping off of columns or exterior walls.
- B. Maintain record documents at job site in a clean, dry and legible condition. Keep record documents available for inspection by the Project Manager.
- C. Show the location of all valves and their appropriate tag identification.
- D. At completion of project, deliver these drawings to the Engineer and obtain a written receipt.

1.07 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 1 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories in order of the Specification Sections. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications
- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.
- E. Submit product data for:
 - 1. Hangers and Supports for Plumbing Piping and Equipment.
 - 2. Vibration and Seismic controls for Plumbing Piping and Equipment.
 - 3. Identification for Plumbing Piping and Equipment.

1.08 OPERATING AND MAINTENANCE MANUALS

- A. Submit maintenance manuals to the Engineer covering all equipment, fixtures, devices, etc. installed by the Contractor.
- B. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
 - 2. Catalog cuts of all equipment, fixtures, etc. installed (Marked to identify the specific items used).
 - 3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
 - 4. Identification numbers of all parts and nearest sources for obtaining parts and services.
 - 5. A copy of valve schedule and reduced scale drawings showing valve locations.
 - 6. Written summary of instructions to Owner.
 - 7. All manufacturers' warranties and guarantees.
 - 8. Contractors Warranty Letter.
- C. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-off for a full year (initials) to verify that the tasks are being done.

1.09 HANDLING

- A. See General Conditions and the General Requirements in Division 1 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.10 SUBSTITUTIONS

- A. See General Conditions and the General Requirements in Division 1 for substitution request procedures.
- B. In accordance with the General Conditions and the General Requirements in Division 1, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Engineer shall be the final authority regarding acceptability of substitutes.

1.11 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to Engineer for consideration before proceeding with the work.

1.12 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Architect/Engineer of any such conflicts before installation.

1.13 PERMITS, FEES, ETC.

- A. The Contractor under each Division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.14 TESTING

- A. The Contractor under each section shall at his own expenses perform the various tests as specified and required by the Architect and as required by applicable code, the State and local authorities. The Contractor shall furnish all fuel and materials necessary for making tests.

1.15 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.16 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to avoid delaying any other trade. The Architect will set up completion dates. Each contractor shall cooperate in establishing these times and locations and shall process his work so as to ensure the proper execution of it.

1.17 COOPERATION AND CLEANING UP

- A. The contractor for the work under each section of the specifications shall coordinate his work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on his work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Architect, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.18 WARRANTY

- A. Unless a longer warranty is hereinafter called for, all work, materials and equipment items shall be warrantied for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Architect/Engineer, shall be repaired and/or replaced to the complete satisfaction of the Architect/Engineer. Guarantee shall be in accordance with Division 1.

1.19 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 1, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Test and Balance Reports.
 - 5. Operation and Maintenance Manuals.

1.20 INSPECTION OF SITE - REMODEL PROJECTS

- A. The accompanying plans do not indicate completely the existing plumbing and mechanical installations. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the present building and underground serving to and from that structure. Failure to comply with this shall not constitute grounds for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.21 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing plumbing, mechanical and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. By actual examination at the site, each bidder shall determine those portions of the remaining present installations, which must be relocated to avoid interference with the installations of new work of his particular trade and that of all other trades. All such existing installations, which interfere with new installations, shall be relocated by the Contractor.

1.22 SALVAGE MATERIALS

- A. The Contractor shall remove existing fixtures, equipment and other items associated with the plumbing systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Architect/Engineer), they shall be removed.
- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.
- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.02 RESTRICTED MATERIALS

- A. No materials containing asbestos in any form shall be allowed.
- B. No solder or flux containing lead shall be used on this project.
- C. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61.
- D. Where materials or equipment provided by this Contractor are found to contain restricted materials, such items shall be removed and replaced with non-restricted materials items. Entire cost of restricted materials removal and disposal and cost of installing new items shall be the responsibility of the Contractor for those restricted materials containing items installed by the Contractor.

2.03 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

- A. Plastic Nameplates: Laminated plastic with engraved letters.
- B. Plastic Tags: Laminated plastic with engraved letters, minimum 1-1/2 inches diameter.
- C. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering.
- D. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

2.04 PIPE HANGERS AND SUPPORTS

- A. Acceptable Manufacturers:
 - 1. Anvil.
 - 2. B-Line Systems, Inc.
 - 3. Erico.
 - 4. PHD Manufacturing, Inc.
 - 5. Tolco.
- B. Plumbing Piping - DWV:
 - 1. Conform to ANSI/MSS SP58.
 - 2. Hangers for Pipe Sizes ½ to 1-½ Inch: Malleable iron or carbon steel, adjustable swivel, split ring.
 - 3. Hangers for Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
 - 4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
 - 5. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
 - 6. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
 - 7. Vertical Support: Steel riser clamp.
 - 8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
 - 9. Copper Pipe Support: Carbon steel ring, adjustable, copper plated with neoprene isolation pad.
- C. Shield for Insulated Piping 1-½ Inches and Smaller: 18 gauge galvanized steel shield over insulation in 180° segments, minimum 12 inches long at pipe support.
- D. Shield for Insulated Piping 2 Inches and Larger: Hard block, calcium silicate insert, 180° segment, 12 inch minimum length, block thickness same as insulation thickness, flame resistant vapor barrier covering and 18 gauge galvanized shield.
- E. Shields for Vertical Copper Pipe Risers: Galvanized steel pipe.

2.05 HANGER RODS

- A. Steel Hanger Rods: Mild steel, threaded both ends, threaded one end, or continuous threaded. Minimum Hanger Rod Sizes:

PIPE AND TUBE SIZE (INCHES)	ROD SIZE (INCHES)
1/4-4	3/8
5-8	1/2
10-12	5/8

2.06 EQUIPMENT CURBS

- A. Fabricate curbs of steel unless specifically called out otherwise.

2.07 FLASHING

- A. Metal Flashing: 26-gauge minimum galvanized steel.
- B. Metal Counter Flashing: 22 gauge minimum galvanized steel.
- C. Flexible Flashing: 47-mil thick sheet butyl, compatible with roofing.
- D. Caps: Steel, 22-gauge minimum; 16 gauge at fire resistant elements.

2.08 SLEEVES

- A. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe or 18 gauge galvanized steel for 4 inch diameter and larger, 22 gauge up to 3" diameter.
- B. Sleeves for Pipes Through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated sleeves including seals, UL listed caulking system.
- C. Fire Stopping Insulation: Mineral fiber type, non- combustible.
- D. Caulk: Fire stop sealant in compliance with ASTM E814, UL 1479 and Division 7.
- E. Mechanical Sleeve Seals: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

PART 3 - EXECUTION

3.01 DRAWINGS

- A. The drawings are partly diagrammatic, not necessarily showing all offsets or exact locations of piping and ducts, unless specifically dimensioned. The contractor shall provide all materials and labor necessary for a complete and operable system. Complete details of the building which affect the mechanical installation may not be shown. For additional details, see Architectural, Structural, Civil and Electrical Drawings. Coordinate work under this section with that of all related trades.

3.02 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NEC, NFPA, IECC, IFGC and IFC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.

3.03 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all equipment and fixtures on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, equipment, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations and in compliance with current ADA and ANSI 117.1 standards.

3.04 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Plumbing Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction. Provide a minimum of four hours of onsite instruction to the owner designated personnel.
- C. When required by individual specification sections provide additional training on plumbing systems and equipment as indicated in the respective specification section.
- D. Provide schedule for training activities for review prior to start of training.

3.05 SYSTEM ADJUSTING

- A. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all plumbing systems. Test all plumbing equipment, fixtures and piping for proper water distribution, drainage, pressure and flow, adjust systems as required to eliminate splashing, noise and vibration.

3.06 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for piping.

- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.07 PAINTING

- A. Perform all of the following painting in accordance with provisions of Division 9 with colors as selected by the Architect. Provide the following items as a part of plumbing work:
1. Factory applied prime and finish coats on plumbing equipment.
 2. Factory applied prime coat on access doors.
 3. Pipe identification where specified.
- B. If factory finish on any equipment furnished is damaged in shipment or during construction, refinish to equal original factory finish.

3.08 IDENTIFICATION

- A. Identify piping to indicate contents and flow direction of each pipe exposed to view by a labeled sleeve in letters readable from floor at least once in each room and at intervals of not more than 20' apart and on each side of partition penetrations. Coloring scheme in accordance with ANSI A13.1-1981, Seton Opti-Code or equal.

3.09 PIPE HANGERS AND SUPPORTS

- A. Support plumbing piping in accordance with the latest adopted edition of the UPC.
- B. Support horizontal piping as follows:

MATERIALS	TYPES OF JOINTS	HORIZONTAL	VERTICAL
Cast-Iron Hub-less	Shielded Coupling	Every other joint, unless over 4 feet then support each joint ^{1,2,3,4}	Base and each floor, not to exceed 15 feet
Schedule 40 PVC and ABS DWV	Solvent Cemented	All sizes, 4 feet; allow for expansion every 30 feet ^{3,6}	Base and each floor ⁷ provide mid-story guides; provide for expansion every 30 feet ⁶

Notes:

- ¹ Support adjacent to joint, not to exceed 18 inches.
- ² Brace not to exceed 40 foot intervals to prevent horizontal movement.
- ³ Support at each horizontal branch connection.
- ⁴ Hangers shall not be placed on the coupling.
- ⁵ Vertical water lines shall be permitted to be supported in accordance with recognized engineering principles with regard to expansion and contraction, where first approved by the Authority Having Jurisdiction.
- ⁶ See the appropriate IAPMO Installation Standard for expansion and other special requirements.
- ⁷ See manufacturer installation instructions for additional requirements.

- C. Install hangers to provide minimum ½ inch space between finished covering and adjacent work.
- D. Place a hanger within 12 inches of each horizontal elbow.
- E. Use hangers with 1-½ inch minimum vertical adjustment.

- F. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacing between hangers.
- G. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at hub.
- H. Where several pipes can be installed in parallel and at the same elevation, provide multiple or trapeze hangers.
- I. Support riser piping independently of connected horizontal piping.
- J. Provide transverse seismic support for all piping systems.

3.10 FLASHING

- A. Provide flexible flashing and metal counter-flashing where piping penetrates weather or waterproofed walls, floors, and roofs.
- B. Flash vent pipes projecting 3 inches minimum above finished roof surface with pre-manufactured butyl boot.
- C. Seal floor drains watertight to adjacent materials.

3.11 SLEEVES

- A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- B. Set sleeves in position in construction. Provide reinforcing around sleeves.
- C. Extend sleeves through floors one inch above finished floor level. Caulk sleeves full depth and provide floor plate.
- D. Where piping penetrates floor, ceiling, or wall, install sleeve, close off space between pipe and adjacent work with fire stopping insulation and caulk seal. Use fire rated caulking where fire rated walls are penetrated. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- E. Install chrome plated steel escutcheons at finished surfaces.

END OF SECTION

SELECTIVE DEMOLITION FOR PLUMBING

PART 1 GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 DESCRIPTION

- A. Work specified in this Section includes the demolition, removal, and disposition of certain mechanical work.
- B. Drawings, the provisions of the Agreement, and Administrative Specification Sections apply to all work of this Section.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 EXAMINATION

- A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.
- B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of conditions as satisfactory.

3.02 DEMOLITION, REMOVAL AND DISPOSITION

- A. Saw-cut concrete as shown or required.
- B. Piping and Equipment to Be Removed: Remove all piping and equipment as indicated on the Drawings.
- C. Piping Removed: Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.
- D. Piping, Equipment, and Control Wiring to Be Removed: Remove all piping, equipment, and control wiring as indicated. Drawings do not show all existing piping, equipment, and control wiring which is to be removed. Unless indicated otherwise, where existing equipment has

been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.

- E. Materials to Owner: All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- F. Materials to Owner: As indicated on the Drawings.
- G. Re-use of Materials: Only where indicated on Drawings.
- H. Materials to Contractor: Materials shown or specified to be removed, other than the materials indicated to be turned over to Owner.
- I. Protect any active piping and/or wiring encountered; remove, plug or cap utilities to be abandoned. Notify the Architect of utilities encountered whose service is not known.
- J. Debris Removal: Existing materials removed and not reinstalled or turned over to the Owner shall be immediately removed from the site and disposed of by the Contractor.
- K. Repairs: Any portion of the facility damaged, cut back or made inoperable by this Contractor shall be repaired with similar materials as the existing structure and/or damaged item as instructed by the Architect.

END OF SECTION

PLUMBING INSULATION

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Piping Insulation.
- B. Jackets and Accessories.

1.03 RELATED WORK

- A. Section 09 90 00 - Painting and Coating.
- B. Section 22 05 00 - Common Work Results for Plumbing.
- C. Section 22 40 00 - Plumbing Fixtures.

1.04 REFERENCES

- A. ASTM B209 - Aluminum and Aluminum-alloy Sheet and Plate.
- B. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- C. ANSI/ASTM C533 - Calcium Silicate Block and Pipe Thermal Insulation.
- D. ANSI/ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- E. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
- F. ANSI/ASTM C547 - Mineral Fiber Preformed Pipe Insulation.
- G. ANSI/ASTM C552 - Cellular Glass Block and Pipe Thermal Insulation.
- H. ANSI/ASTM C553 - Mineral Fiber Blanket and Felt Insulation.
- I. ANSI/ASTM C578 - Preformed, Block Type Cellular Polystyrene Thermal Insulation.

- J. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
- K. ANSI/ASTM C612 - Mineral Fiber Block and Board Thermal Insulation.
- L. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
- M. ASTM C1427 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- N. ASTM D635 – Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
- O. ASTM E84 - Surface Burning Characteristics of Building Materials.
- P. ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- Q. NFPA 255 - Surface Burning Characteristics of Building Materials.
- R. UL 723 - Surface Burning Characteristics of Building Materials.

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Include product description, thickness for each service, and locations.
- C. Submit manufacturer's installation instructions.

1.06 QUALITY ASSURANCE

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.
- B. Pipe insulation manufactured in accordance with ASTM C585 for inner and outer diameters.
- C. Materials: Flame spread/smoke developed rating of 25/50 in accordance with UL 723, ASTM E84, or NFPA 255.
- D. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

1.07 DELIVERY STORAGE AND HANDLING

- A. Division 1 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- C. Shipment of materials from manufacturer to installation location shall be in weather tight transportation.

- D. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

1.09 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.10 WARRANTY

- A. Division 1- Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Armacell.
- B. Certain-Teed.
- C. IMCOA.
- D. Johns Manville.
- E. Knauf.
- F. Owens-Corning.
- G. Manson.
- H. Nomaco.
- I. Pittsburgh - Corning.
- J. K-Flex USA.
- K. Armstrong.
- L. TRUEBRO.
- M. Substitutions: Under provisions of Division 1.

2.02 INSULATION - PIPING

- A. Type A: Glass fiber, rigid, molded, non-combustible insulation; ANSI/ASTM C547; 'k' value of 0.23 at 75° F, rated from 0° F to 850° F, vapor retarder jacket of Kraft paper bonded to aluminum foil, self-sealing lap and butt strips; Johns Manville "Micro-Lok" or approved equal.

- B. Type C: Expanded polystyrene; ANSI/ASTM C578; rigid closed cell; maximum water vapor transmission rating of 0.1 perms; 'k' value of 0.23 at 75° F.
- C. Type D: Flexible unicellular polyolefin; ASTM C1427; 'k' value of 0.25 at 75° F ASTM C518; moisture vapor transmission of zero perm-inch ASTM E96; rated to 210° F; IMCOA "Imcolock" or approved equal.

2.03 FIELD APPLIED JACKET

- A. Vapor Barrier Jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.
- B. PVC Jackets and solvent welding adhesive: One piece, pre-molded type, Johns Manville "Zeston 2000", fitting covers and jacketing material. Johns Manville "Perma-Weld" solvent welding adhesive.
- C. Aluminum Jackets: ASTM B209; 0.016 inch thick; corrugated or textured finish, longitudinal slip joints.
- D. Stainless Steel Jackets: Type 304 stainless steel; 0.010 inch thick; corrugated finish.
- E. Re-Wettable Canvas Jacketing: , Fiberglass cloth made from texturized yarns, impregnated throughout with an inorganic fire retardant asbestos free adhesive; 20x14 thread count, 14.5 oz./sq.yd, 0.04 inch thickness, 1,000° F upper temperature limit; GLT Products "Style 1989" or approved equal.

2.04 INSULATION ACCESSORIES

- A. Adhesives: Waterproof and fire-retardant type.
- B. Canvas Lagging Adhesive: Fire resistive to NFPA 255.
- C. Impale Anchors: Galvanized steel, 12 gauge, self-adhesive pad.
- D. Joint Tape: Glass fiber cloth, open mesh.
- E. FSK Joint Tape; ASTM C1136 Foil-Scrim-Kraft (FSK) lamination coated with solvent acrylic pressure sensitive adhesive; capable of adhering to fibrous and sheet metal surfaces; tri-directionally reinforced 2x3 squares per inch fiberglass scrim; 9.5 mils thick, -40 to 240° F service temperatures; Venture Tape "1525CW" or approved equal.
- F. Tie Wire: Annealed steel, 16 gauge.
- G. Insulated pipe supports: Calcium silicate with galvanized steel jacket (min. 24 gauge); ANSI/ASTM C533; rigid white; 'k' value of 0.37 at 100° F, rated to 1,200° F; Thermal Pipe Shields "T-1000 Calsil" or equal.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Install materials after piping and equipment has been tested and approved.
- B. Clean surfaces for adhesives.

- C. Prepare surfaces in accordance with manufacturer's recommendations.

3.02 INSTALLATION - PIPING

- A. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- B. Continue insulation vapor barrier through penetrations except where prohibited by code.
- C. Locate insulation and cover seams in least visible locations.
- D. Neatly finish insulation at supports, protrusions, and interruptions.
- E. Provide insulated cold pipes conveying fluids below ambient temperature with vapor retardant jackets with self-sealing laps. Insulate complete system, including under fitting jackets.
- F. For insulated pipes conveying fluids above ambient temperature, secure jackets with self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges, and unions. Insulate complete system, including under fitting jackets.
- G. Provide insulated piping supports on piping 1-½" inches diameter to 3" diameter. Insulated piping supports shall not be less than the following lengths:

1-½" to 2-½" pipe size 10" long

3" to 6" pipe size 12" long

- H. For exterior applications, provide weather protection jacket or coating. Insulated pipe, fittings, joints, and valves shall be covered with PVC or metal jacket. Jacket seams shall be located on bottom side of horizontal piping.
- I. Fully insulate all piping including all spaces under jacketing.
- J. Jackets:
1. Indoor, Concealed Applications: Insulated pipes shall have vapor barrier jackets, factory-applied. Vapor barrier PVC fittings may also be used provided joints are sealed with solvent welding adhesive approved by the jacket manufacturer.
 2. For pipe exposed in mechanical equipment rooms or in finished spaces below 10 feet above finished floor, finish with PVC jacket and fitting covers or metal jacket.
 3. Insulate all exposed trap arms, drains, and hot water supplies for handicap protection on handicap accessible fixtures.

3.03 SCHEDULE - PIPING

PIPING	TYPE	PIPE SIZE Inch	MINIMUM INSULATION THICKNESS Inch
Rain Leaders	A, C	All Sizes	1"
Roof Drain Sumps	A, C	All Sizes	2"
Vent Through Roof	A, C, D	All Sizes	1"

END OF SECTION

PLUMBING PIPING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

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1.02 WORK INCLUDED

- A. Storm Drain Piping.
- B. Sanitary Sewer Piping, Above Grade

1.03 RELATED WORK

- A. Division 2 – Site Work
- B. Section 22 05 00 – Common Work Results for Plumbing.
- C. Section 22 07 00 - Plumbing Insulation.
- D. Section 22 40 00 - Plumbing Fixtures.

1.04 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61.
- C. Welding Materials and Procedures: Conform to ASME Code and applicable state labor regulations.
- D. Welders Certification: In accordance with ANSI/ASME Sec 9.

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 1.

- B. Include data on pipe materials, pipe fittings, valves and accessories.

1.06 WARRANTY

- A. Polypropylene pipe and fittings shall be covered by a factory warranty for 30 years to be free of defects in materials or manufacturing.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Division 1.
- B. Store and protect products under provisions of Division 1.
- C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.01 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.
- B. Copper Pipe: ASTM B306, DWV. Fittings: ASME B16.3, cast bronze, or ASME B16.29, wrought copper. Joints: ASTM B32, solder, Grade 95TA; Flux: ASTM B813.

2.02 STORM DRAIN PIPING, ABOVE GRADE

- A. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.

2.03 FLANGES, UNIONS, AND COUPLINGS

- A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.
- B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping: 1/16 inch thick preformed neoprene bonded to fiber.
- C. Grooved and Shouldered Pipe End Couplings: Malleable iron housing clamps to engage and lock, designed to permit some angular deflection, contraction, and expansion; "C" shape composition sealing gasket; steel bolts, nuts, and washers; galvanized couplings for galvanized pipe.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.

3.02 INSTALLATION

- A. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- B. Route piping in orderly manner and maintain gradient.
- C. Install piping to conserve building space and not interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Provide clearance for installation of insulation and access to valves and fittings.
- G. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.
- H. Slope water piping and arrange to drain at low points.
- I. Establish elevations of buried piping outside the building to ensure not less than 10 ft. of cover.
- J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- K. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting. Refer to Division 9.
- L. Establish invert elevations, slopes for drainage to 1/4" per foot, 1/8" per foot if 4" or over, minimum. Maintain gradients.
- M. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with Teflon™ based thread lubricate. Ensure clearance at cleanout for rodding of drainage system.
- N. Support all piping in accordance with Uniform Plumbing Code and Manufacturer installation instructions. Where there is a conflict between requirements of the Uniform Plumbing Code and Manufacturer installation instructions, the more restrictive requirement shall apply.

3.03 TESTING

- A. Test all storm drainage piping in accordance with Section 1109 of the UPC. Submit a signed statement to the Engineer stating testing dates, procedure and initials of tester.

3.04 SERVICE CONNECTIONS

- A. Provide new sanitary sewer and storm drain services, as required. Before commencing work check invert elevations required for sewer connections, confirm inverts and ensure that these can be properly connected with slope for drainage and cover to avoid freezing.

END OF SECTION

PLUMBING FIXTURES

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

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1.02 WORK INCLUDED

- A. Roof Drains.

1.03 RELATED WORK

- A. Section 22 05 00 - Common Work Results for Plumbing.
- B. Section 22 10 00 – Plumbing Piping.

1.04 REFERENCES

- A. ANSI A112.21.2 - Roof Drains.

1.05 QUALITY ASSURANCE

- A. Manufacturer: For each product specified, provide components by same manufacturer throughout.
- B. Trim: By same manufacturer for each product specified throughout.

1.06 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include sizes, rough-in requirements, service sizes, and finishes.

1.07 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 01.
- B. Include fixture trim exploded view and replacement parts lists.
- C. Provide Manufacturer's parts list and maintenance information on specialties.

1.08 WARRANTY

- A. Provide manufacturer's warranty under provisions of Division 01.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - ROOF DRAINS, AND ACCESSORIES

- A. J.R. Smith.
- B. Zurn.
- C. Josam.
- D. Mifab.
- E. Substitutions: Under provisions of Division 01.

2.02 ROOF DRAINS

- A. Roof Drains (RD-1-3): ANSI A112.21.2; lacquered cast iron body with sump, vandal proof removable cast iron dome strainer, membrane flange and membrane clamp with integral gravel stop, with adjustable underdeck clamp, roof sump receiver, waterproofing flange, leveling frame, adjustable extension sleeve. Model 1015 manufactured by J.R. Smith.
- B. Roof Overflow Drains (OD-1-3): Lacquered cast iron, vandal proof removable cast iron dome strainer, membrane flange and membrane clamp with integral gravel stop, with adjustable underdeck clamp, roof sump receiver, waterproofing flange, leveling frame, adjustable extension sleeve, water dam extended to 2 inches above flood elevation; Model 1045 manufactured by J.R. Smith.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Coordinate forming of roof construction to receive drains to required invert elevations.

3.02 INSPECTION

- A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
- B. Verify adjacent construction is ready to receive rough-in work of this Section.

3.03 INSTALLATION

- A. Install components level and plumb
- B. Install and secure fixtures in place with wall or floor carriers, supports as per the manufacturers instructions.
- C. Install specialties in accordance with manufacturer's instructions to permit intended performance.

- D. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

END OF SECTION

COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.03 WORK INCLUDED

- A. The work to be included in these and all other mechanical subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items shown on the drawings, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 01 of the specifications is to be specifically included as well as all related drawings.

1.04 RELATED WORK

- A. Related Work Specified Elsewhere:
 - 1. Plumbing Specifications: Division 22.
 - 2. Electrical Specifications: Division 26.
- B. Unless otherwise indicated on the electrical drawings or the electrical schedules, provide all mechanical equipment motors, motor starters, thermal overload switches, control relays, time clocks, thermostats, motor operated valves, float controls, damper motors, electric switches, electrical components, wiring and any other miscellaneous Division 23 controls. Disconnect switches are included in the electrical work, unless specifically called out on mechanical plans.
- C. Carefully coordinate all work with the electrical work shown and specified elsewhere.

1.05 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 70 National Electrical Code (NEC).
- B. IMC International Mechanical Code.
- C. UPC Uniform Plumbing Code.
- D. IECC International Energy Conservation Code.
- E. IBC International Building Code.

1.06 PROJECT RECORD DRAWINGS

- A. In addition to other requirements of Division 01, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building. Show exact dimensions of buried piping off of columns or exterior walls.
- B. Maintain record documents at job site in a clean, dry and legible condition. Keep record documents available for inspection by the Project Manager.
- C. Show the location of all valves and their appropriate tag identification.
- D. At completion of project, deliver these drawings to the Engineer and obtain a written receipt.

1.07 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 01 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories in order of the Specification Sections. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications.
- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.
- E. Submit product data for:
 - 1. Hangers and Supports for HVAC Piping and Equipment.
 - 2. Vibration and Seismic controls for HVAC Piping, Ductwork and Equipment.
 - 3. Identification for HVAC Piping, Ductwork and Equipment.

1.08 OPERATING AND MAINTENANCE MANUALS

- A. Submit maintenance manuals to the Engineer covering all equipment, devices, etc. installed by the Contractor.
- B. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
 - 2. Catalog cuts of all equipment, etc. installed (Marked to identify the specific items used).
 - 3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
 - 4. Identification numbers of all parts and nearest sources for obtaining parts and services.
 - 5. Reduced scale drawings of the control system and a verbal description of how these controls operate.
 - 6. A copy of the final test and balance report.
 - 7. A copy of valve schedule and reduced scale drawings showing valve locations.
 - 8. Written summary of instructions to Owner.
 - 9. All manufacturers' warranties and guarantees.
 - 10. Contractors Warranty Letter.
- C. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-off for a full year (initials) to verify that the tasks are being done.

1.09 HANDLING

- A. See General Conditions and the General Requirements in Division 01 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.10 SUBSTITUTIONS

- A. See General Conditions and the General Requirements in Division 01 for substitution request procedures.
- B. In accordance with the General Conditions and the General Requirements in Division 01, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Engineer shall be the final authority regarding acceptability of substitutes.

1.11 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to the Engineer for consideration before proceeding with the work.

1.12 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Architect/Engineer of any such conflicts before installation.

1.13 PERMITS, FEES, ETC.

- A. The Contractor under each Division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.14 TESTING

- A. The Contractor under each section shall at his own expenses perform the various tests as specified and required by the Architect and as required by applicable code, the State and local authorities. The Contractor shall furnish all fuel and materials necessary for making tests.

1.15 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.16 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to avoid delaying any other trade. The Architect will set up completion dates. Each contractor shall

cooperate in establishing these times and locations and shall process his work so as to ensure the proper execution of it.

1.17 COOPERATION AND CLEANING UP

- A. The contractor for the work under each section of the specifications shall coordinate his work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on his work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Architect, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.18 WARRANTY

- A. Unless a longer warranty is hereinafter called for, all work, materials and equipment items shall be warrantied for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Architect/Engineer, shall be repaired and/or replaced to the complete satisfaction of the Architect/Engineer. Guarantee shall be in accordance with Division 01.

1.19 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 01, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Test and Balance Reports.
 - 5. Operation and Maintenance Manuals.

1.20 INSPECTION OF SITE - REMODEL PROJECTS

- A. The accompanying plans do not indicate completely the existing plumbing and mechanical installations. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the present building and underground serving to and from that structure. Failure to comply with this shall not constitute grounds for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.21 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing plumbing, mechanical and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. By actual examination at the site, each bidder shall determine those portions

of the remaining present installations, which must be relocated to avoid interference with the installations of new work of his particular trade and that of all other trades. All such existing installations, which interfere with new installations, shall be relocated by the Contractor.

1.22 SALVAGE MATERIALS

- A. The Contractor shall remove existing equipment, duct, grilles and other items associated with the mechanical systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Architect/Engineer), they shall be removed.
- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.
- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.02 RESTRICTED MATERIALS

- A. No materials containing asbestos in any form shall be allowed.
- B. No solder or flux containing lead shall be used on this project.
- C. Where materials or equipment provided by this Contractor are found to contain restricted materials, such items shall be removed and replaced with non-restricted materials items. Entire cost of restricted materials removal and disposal and cost of installing new items shall be the responsibility of the Contractor for those restricted materials containing items installed by the Contractor.

2.03 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

- A. Plastic Nameplates: Laminated plastic with engraved letters.
- B. Plastic Tags: Laminated plastic with engraved letters, minimum 1-1/2 inches diameter.

2.04 FLASHING

- A. Metal Flashing: 26-gauge minimum galvanized steel.
- B. Metal Counter Flashing: 22 gauge minimum galvanized steel.

- C. Flexible Flashing: 47-mil thick sheet butyl, compatible with roofing.
- D. Caps: Steel, 22-gauge minimum; 16 gauge at fire resistant elements.

2.05 EQUIPMENT CURBS

- A. Fabricate curbs of steel, unless specifically called out otherwise.

2.06 SLEEVES

- A. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe or 18 gauge galvanized steel for 4 inch diameter and larger, 22 gauge up to 3" diameter.
- B. Sleeves for Pipes Through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated sleeves including seals, UL listed caulking system.
- C. Fire Stopping Insulation: Mineral fiber type, non- combustible.
- D. Caulk: Fire stop sealant in compliance with ASTM E814, UL 1479 and Division 07.
- E. Mechanical Sleeve Seals: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

2.07 FORMED STEEL CHANNEL

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. B-Line Systems.
 - 3. Midland Ross Corporation, Electrical Products Division
 - 4. Unistrut Corp.
 - 5. Substitutions under provisions of Division 01.
- B. Product Description: Galvanized 12 gauge (2.8 mm) thick steel. With holes 1-1/2 inches (38 mm) on center.

2.08 VENTILATING SYSTEMS FLEXIBLE CONNECTIONS

- A. Fabricate of neoprene coated flameproof fabric a minimum of 3" wide tightly crimped into metal edging strip and attach to ducting and equipment by screws or bolts at 6" intervals. DuroDyne Dynalon treated duct material, or equal. Durolon or equal for outdoor or high pressure applications.

PART 3 - EXECUTION

3.01 DRAWINGS

- A. The drawings are partly diagrammatic, not necessarily showing all offsets or exact locations of piping and ducts, unless specifically dimensioned. The contractor shall provide all materials and labor necessary for a complete and operable system. Complete details of the building which affect the mechanical installation may not be shown. For additional

details, see Architectural, Structural, Civil and Electrical Drawings. Coordinate work under this section with that of all related trades.

3.02 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NFPA, and IECC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.
- D. Install in accordance with manufacturer's instructions.

3.03 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all equipment on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, ducts, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations and in compliance with current ADA and ANSI 117.1 standards.

3.04 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Mechanical Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction. Provide a minimum of four hours of on site instruction to the owner designated personnel.
- C. When required by individual specification sections provide additional training on HVAC systems and equipment as indicated in the respective specification section.
- D. Provide schedule for training activities for review prior to start of training.

3.05 SYSTEM ADJUSTING

- A. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all controls, proper air distribution, elimination of drafts, noise and vibration.
- B. Balance air and water systems for volume quantities shown and as required to ensure even temperature and the elimination of drafts. Balancing shall be done by a qualified firm acceptable to the Engineer. Provide balancing log to the Engineer before substantial completion.

3.06 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for ducts and piping.
- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.07 PAINTING

- A. Perform all of the following painting in accordance with provisions of Division 09 with colors as selected by the Architect. Provide the following items as a part of mechanical work:
 - 1. Factory applied prime and finish coats on mechanical equipment.
 - 2. Factory applied prime and finish coat on all air registers, grilles and diffusers, unless otherwise specified.
 - 3. Factory applied prime coat on access doors.
 - 4. Pipe identification where specified.
- B. If factory finish on any equipment furnished is damaged in shipment or during construction, refinish to equal original factory finish.

3.08 IDENTIFICATION

- A. Label all equipment with heat resistant laminated plastic labels having engraved lettering 1/2" high. If items are not specifically listed on the schedules, consult the Engineer concerning designation to use. Seton engraved Seton-Ply nameplates or equal.

3.09 FLASHING

- A. Provide flexible flashing and metal counter-flashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.
- B. Provide acoustical flashing around ducts and pipes penetrating equipment rooms, installed in accordance with manufacturer's instructions for sound control.
- C. Provide curbs for mechanical roof installations 16 inches minimum high above roofing surface. Flexible sheet flash and counter-flash with sheet metal; seal watertight.
- D. Adjust storm collars tight to pipe with bolts; caulk around top edge. Use storm collars above roof jacks. Screw vertical flange section to face of curb.

3.10 SLEEVES

- A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.

- B. Set sleeves in position in construction. Provide reinforcing around sleeves.
- C. Extend sleeves through floors one inch above finished floor level. Caulk sleeves full depth and provide floor plate.
- D. Where piping or ductwork penetrates floor, ceiling, or wall, install sleeve, close off space between pipe or duct and adjacent work with fire stopping insulation and caulk seal. Use fire rated caulking where fire rated walls are penetrated. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- E. Install chrome plated steel escutcheons at finished surfaces.

3.11 INSTALLATION OF EQUIPMENT

- A. Unless otherwise indicated, mount all equipment and install in accordance with manufacturer's recommendations and approved submittals.
- B. Maintain manufacture recommended minimum clearances for access and maintenance.
- C. Where equipment is to be anchored to structure, furnish and locate necessary anchoring and vibration isolation devices.
- D. Furnish all structural steel, such as angles, channels, beams, etc. required to support all piping, ductwork, equipment and accessories installed under this Division. Use structural supports suitable for equipment specified or as indicated. In all cases, support design will be based upon data contained in manufacturer's catalog.
- E. Openings: Arrange for necessary openings in buildings to allow for admittance and reasonable maintenance or replacement of all equipment furnished under this Contract.
- F. Access Doors: Provide as necessary for reasonable maintenance of all equipment valves, controls, etc.

END OF SECTION

SELECTIVE DEMOLITION FOR HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 DESCRIPTION

- A. Work specified in this Section includes the demolition, removal, and disposition of certain mechanical work.
- B. Drawings, the provisions of the Agreement, and Administrative Specification Sections apply to all work of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.
- B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of conditions as satisfactory.

3.02 DEMOLITION, REMOVAL AND DISPOSITION

- A. Saw-cut concrete as shown or required.
- B. Piping, Ductwork, And Equipment To Be Removed: Remove all piping, ductwork, and equipment as indicated on the Drawings.
- C. Piping Removed: Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.
- D. Piping, Ductwork, Equipment, Control Wiring and Tubing To Be Removed: Remove all piping, ductwork, equipment, control wiring and tubing as indicated. Drawings do not show all existing piping, ductwork, equipment, control wiring and tubing which is to be removed.

Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping and ductwork back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.

- E. Materials To Owner: All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- F. Materials To Owner: As indicated on the Drawings.
- G. Re-use Of Materials: Only where indicated on Drawings.
- H. Materials To Contractor: Materials shown or specified to be removed, other than the materials indicated to be turned over to Owner.
- I. Protect any active piping and/or wiring encountered; remove, plug or cap utilities to be abandoned. Notify the Architect of utilities encountered whose service is not known.
- J. Debris Removal: Existing materials removed and not reinstalled or turned over to the Owner shall be immediately removed from the site and disposed of by the Contractor.
- K. Repairs: Any portion of the facility damaged, cut back or made inoperable by this Contractor shall be repaired with similar materials as the existing structure and/or damaged item as instructed by the Architect.

END OF SECTION

HVAC DUCTS AND CASINGS

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SUMMARY

- A. Section Includes:
1. Duct Materials.
 2. Ductwork Fabrication.
 3. Kitchen Hood Exhaust Ductwork Fabrication.

1.03 RELATED SECTIONS

- A. Division 09 90 00 – Painting and Coating
- B. Section 23 07 00 – HVAC Insulation: Product requirements for duct liners for placement by this section.

1.04 REFERENCES

- A. ASTM International:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
 2. ASTM A90/A90M - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 3. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 4. ASTM A568/A568M - Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
 5. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 6. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 7. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 8. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

9. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
10. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Sheet Metal and Air Conditioning Contractors:

1. SMACNA - Fibrous Glass Duct Construction Standards.
2. SMACNA - HVAC Air Duct Leakage Test Manual.
3. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

C. Underwriters Laboratories Inc.:

1. UL 181 - Factory-Made Air Ducts and Connectors.

1.05 DEFINITIONS

- A. Duct Sizes: Inside clear dimensions. For lined ducts, maintain sizes inside lining.
- B. Low Pressure: Three pressure classifications: ½ inch WG positive or negative static pressure and velocities less than 2,000 fpm; 1 inch WG positive or negative static pressure and velocities less than 2,500 fpm and 2 inch WG positive or negative static pressure and velocities less than 2,500 fpm.

1.06 PERFORMANCE REQUIREMENTS

- A. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.07 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 1 regarding submittals.
- B. Product Data: Submit data for duct materials, duct connectors.
- C. Test Reports: Indicate pressure tests performed. Include date, section tested, test pressure, and leakage rate, following SMACNA HVAC Air Duct Leakage Test Manual.
- D. Manufacturer's Installation Instructions: Submit special procedures for glass fiber ducts.

1.08 CLOSEOUT SUBMITTALS

- A. Division 1 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.09 QUALITY ASSURANCE

- A. Perform Work in accordance with SMACNA - HVAC Duct Construction Standards - Metal and flexible.
- B. Construct ductwork to NFPA 90A standards.
- C. Maintain one copy of each document on site.

1.10 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years experience approved by manufacturer.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Division 1 - General Requirements.
- B. Do not install duct sealant when temperatures are less than those recommended by sealant manufacturers.
- C. Maintain temperatures during and after installation of duct sealant.

1.12 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.13 WARRANTY

- A. Division 1 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.01 DUCT MATERIALS

- A. Galvanized Steel Ducts: ASTM A653/A653M galvanized steel sheet, lock-forming quality, having G90 zinc coating of in conformance with ASTM A90/A90M.
- B. Steel Ducts: ASTM A568/A568M.
- C. Stainless Steel Ducts: ASTM A167, Type 304.
- D. Fasteners: Rivets, bolts, or sheet metal screws.
- E. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.02 LOW PRESSURE DUCTWORK FABRICATION

- A. Fabricate and support rectangular ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and ASHRAE handbooks, except as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by written permission.
- C. Construct T's, bends, and elbows with minimum radius 1-1/2 times centerline duct width. Where not possible and where rectangular elbows are used, provide airfoil turning vanes. Where acoustical lining is indicated, furnish turning vanes of perforated metal with glass fiber insulation.
- D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30° divergence upstream of equipment and 45° convergence downstream.
- E. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.
- F. Provide standard 45-degree lateral wye takeoffs. When space does not allow 45-degree lateral wye takeoff, use 90-degree conical tee connections.
- G. Provide easements where low pressure ductwork conflicts with piping and structure. Where easements exceed 10 percent duct area, split into two ducts maintaining original duct area.
- H. Connect flexible ducts to metal ducts with draw bands.
- I. Use crimp joints with or without bead for joining round duct sizes 12" and smaller with crimp in direction of airflow.
- J. Use double nuts and lock washers on threaded rod supports.

2.03 TYPE I KITCHEN HOOD EXHAUST DUCTWORK FABRICATION

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and NFPA 96.
- B. Construct of 18 gauge stainless steel using continuous external welded joints.
- C. Provide 18" from combustibles and 3" from non-combustibles.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Division 1 - Administrative Requirements: Coordination and project conditions.
- B. Verify sizes of equipment connections before fabricating transitions.

3.02 INSTALLATION

- A. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- B. During construction, install temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- C. Use crimp joints with or without bead or beaded sleeve couplings for joining round duct sizes 12" and smaller.
- D. Install duct hangers and supports in accordance with Section 23 05 00.
- E. Use double nuts and lock washers on threaded rod supports.
- F. Connect flexible ducts to metal ducts with adhesive plus sheet metal screws.
- G. Set plenum doors 6 to 12 inches above floor. Arrange door swing so fan static pressure holds door in closed position.

3.03 INTERFACE WITH OTHER PRODUCTS

- A. Install openings in ductwork where required to accommodate thermometers and controllers. Install pitot tube openings for testing of systems. Install pitot tube complete with metal can with spring device or screw to prevent air leakage. Where openings are provided in insulated ductwork, install insulation material inside metal ring.
- B. Connect diffusers or light troffer boots to low pressure ducts with 5 feet maximum length of flexible duct held in place with strap or clamp.
- C. Connect [air terminal units] [air outlets and inlets] to supply ducts [directly or] with five foot maximum length of flexible duct. Do not use flexible duct to change direction.

3.04 SCHEDULES

- A. Ductwork Material Schedule:

Air System	Material
Low Pressure Supply	Steel
Return and Relief	Steel
General Exhaust	Steel
Kitchen Hood Exhaust	Stainless Steel
Dishwasher Exhaust	Stainless Steel

END OF SECTION

FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 WORK INCLUDED

- A. Pipe and pipe fittings.
- B. Valves.

1.03 RELATED WORK

- A. Section 23 05 00 - Common Work Results for HVAC

1.04 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 1.
- B. Include data on pipe materials, pipe fittings, valves and accessories.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Division 1.
- B. Store and protect products under provisions of Division 1.
- C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.01 NATURAL GAS PIPING, ABOVE GRADE

- A. Piping: Steel Pipe ASTM A53, Schedule 40 black. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, forged steel welding type.
- B. Joints:

1. Low pressure, 2" and under: Screwed or Viega MegaPressG Cold Press Mechanical Joint. Press fittings are acceptable to last tee for connection to the appliance. Utilize threaded piping at the last tee.
2. Medium pressure or larger than 2": ANSI/AWS D1.1, welded.

2.02 FLANGES, UNIONS, AND COUPLINGS

- A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.
- B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping; 1/16 inch thick preformed neoprene bonded to fiber.
- C. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.03 ACCEPTABLE MANUFACTURERS – GAS COCKS AND BALL VALVES

- A. Apollo.
- B. Hammond.
- C. Milwaukee.
- D. Nibco.
- E. Substitutions: Under provisions of Division 1

2.04 GAS COCKS

- A. Up to 2 Inches: Bronze body, bronze tapered plug. non-lubricated, Teflon packing, threaded ends.
- B. Over 2 Inches: Cast iron body and plug, non-lubricated, Teflon packing, flanged ends.

2.05 BALL VALVES

- A. Up to 2 Inches: Bronze two piece body, full port, forged brass, chrome plated ball, Teflon seats and stuffing box ring, lever handle, solder, threaded or press-fit ends.
- B. Over 2 Inches: Cast steel, two piece body, full port chrome plated steel ball, Teflon seat and stuffing box seals, lever handle, flanged, solder, threaded or press-fit ends.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Verify that excavations are to required grade, dry, and not over excavated.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- D. Install piping to maintain headroom to conserve building space and not interfere with use of space.
- E. Group piping whenever practical at common elevations.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance for installation of insulation and access to valves and fittings.
- H. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.
- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- J. Install valves with stems upright or horizontal, not inverted.
- K. Provide properly sized handles for valve operation. Handles shall not be cut or bent to make fit where installed.
- L. Terminate plastic piping above ground with anodeless riser.
- M. At all points where fuel gas piping enters or leaves the ground, there shall be installed, above ground, an approved or listed fuel gas piping connector, capable of absorbing a six-inch (6") displacement, in any direction, due to frost heave action.

3.03 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.
- B. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.

3.04 TESTING

- A. Test all piping in accordance with IFGC and UPC requirements. The test pressure used shall be no less than 10 times the proposed maximum working pressure, but not less than 10 psig for low pressure gas systems (7 inch WC) or 60 psig for medium pressures gas systems (2 psig or 5 psig). All welded pipe shall be tested with not less than 60 psig test pressures.

END OF SECTION

HVAC DUCTS AND CASINGS

PART 1 - GENERAL

1.01 NOTIFICATIONS OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead, are also present in settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with EPA and OSHA requirements.

1.02 SUMMARY

- A. Section Includes:
1. Duct Materials.
 2. Ductwork Fabrication.
 3. Kitchen Hood Exhaust Ductwork Fabrication.

1.03 RELATED SECTIONS

- A. Division 09 90 00 – Painting and Coating
- B. Section 23 07 00 – HVAC Insulation: Product requirements for duct liners for placement by this section.

1.04 REFERENCES

- A. ASTM International:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
 2. ASTM A90/A90M - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 3. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 4. ASTM A568/A568M - Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
 5. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 6. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 7. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 8. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

9. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
10. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Sheet Metal and Air Conditioning Contractors:

1. SMACNA - Fibrous Glass Duct Construction Standards.
2. SMACNA - HVAC Air Duct Leakage Test Manual.
3. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

C. Underwriters Laboratories Inc.:

1. UL 181 - Factory-Made Air Ducts and Connectors.

1.05 DEFINITIONS

- A. Duct Sizes: Inside clear dimensions. For lined ducts, maintain sizes inside lining.
- B. Low Pressure: Three pressure classifications: ½ inch WG positive or negative static pressure and velocities less than 2,000 fpm; 1 inch WG positive or negative static pressure and velocities less than 2,500 fpm and 2 inch WG positive or negative static pressure and velocities less than 2,500 fpm.

1.06 PERFORMANCE REQUIREMENTS

- A. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.07 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 1 regarding submittals.
- B. Product Data: Submit data for duct materials, duct connectors.
- C. Test Reports: Indicate pressure tests performed. Include date, section tested, test pressure, and leakage rate, following SMACNA HVAC Air Duct Leakage Test Manual.
- D. Manufacturer's Installation Instructions: Submit special procedures for glass fiber ducts.

1.08 CLOSEOUT SUBMITTALS

- A. Division 1 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.09 QUALITY ASSURANCE

- A. Perform Work in accordance with SMACNA - HVAC Duct Construction Standards - Metal and flexible.
- B. Construct ductwork to NFPA 90A standards.
- C. Maintain one copy of each document on site.

1.10 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years experience approved by manufacturer.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Division 1 - General Requirements.
- B. Do not install duct sealant when temperatures are less than those recommended by sealant manufacturers.
- C. Maintain temperatures during and after installation of duct sealant.

1.12 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.13 WARRANTY

- A. Division 1 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.01 DUCT MATERIALS

- A. Galvanized Steel Ducts: ASTM A653/A653M galvanized steel sheet, lock-forming quality, having G90 zinc coating of in conformance with ASTM A90/A90M.
- B. Steel Ducts: ASTM A568/A568M.
- C. Stainless Steel Ducts: ASTM A167, Type 304.
- D. Fasteners: Rivets, bolts, or sheet metal screws.
- E. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.02 LOW PRESSURE DUCTWORK FABRICATION

- A. Fabricate and support rectangular ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and ASHRAE handbooks, except as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by written permission.
- C. Construct T's, bends, and elbows with minimum radius 1-1/2 times centerline duct width. Where not possible and where rectangular elbows are used, provide airfoil turning vanes. Where acoustical lining is indicated, furnish turning vanes of perforated metal with glass fiber insulation.
- D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30° divergence upstream of equipment and 45° convergence downstream.
- E. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.
- F. Provide standard 45-degree lateral wye takeoffs. When space does not allow 45-degree lateral wye takeoff, use 90-degree conical tee connections.
- G. Provide easements where low pressure ductwork conflicts with piping and structure. Where easements exceed 10 percent duct area, split into two ducts maintaining original duct area.
- H. Connect flexible ducts to metal ducts with draw bands.
- I. Use crimp joints with or without bead for joining round duct sizes 12" and smaller with crimp in direction of airflow.
- J. Use double nuts and lock washers on threaded rod supports.

2.03 TYPE I KITCHEN HOOD EXHAUST DUCTWORK FABRICATION

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and NFPA 96.
- B. Construct of 18 gauge stainless steel using continuous external welded joints.
- C. Provide 18" from combustibles and 3" from non-combustibles.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Division 1 - Administrative Requirements: Coordination and project conditions.
- B. Verify sizes of equipment connections before fabricating transitions.

3.02 INSTALLATION

- A. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- B. During construction, install temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- C. Use crimp joints with or without bead or beaded sleeve couplings for joining round duct sizes 12" and smaller.
- D. Install duct hangers and supports in accordance with Section 23 05 00.
- E. Use double nuts and lock washers on threaded rod supports.
- F. Connect flexible ducts to metal ducts with adhesive plus sheet metal screws.
- G. Set plenum doors 6 to 12 inches above floor. Arrange door swing so fan static pressure holds door in closed position.

3.03 INTERFACE WITH OTHER PRODUCTS

- A. Install openings in ductwork where required to accommodate thermometers and controllers. Install pitot tube openings for testing of systems. Install pitot tube complete with metal can with spring device or screw to prevent air leakage. Where openings are provided in insulated ductwork, install insulation material inside metal ring.
- B. Connect diffusers or light troffer boots to low pressure ducts with 5 feet maximum length of flexible duct held in place with strap or clamp.
- C. Connect [air terminal units] [air outlets and inlets] to supply ducts [directly or] with five foot maximum length of flexible duct. Do not use flexible duct to change direction.

3.04 SCHEDULES

- A. Ductwork Material Schedule:

Air System	Material
Low Pressure Supply	Steel
Return and Relief	Steel
General Exhaust	Steel
Kitchen Hood Exhaust	Stainless Steel
Dishwasher Exhaust	Stainless Steel

END OF SECTION

COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. General Requirements specifically applicable to Division 26, in addition to Division 1 provisions.
- B. The electrical system equipment and installation shall comply with all provisions and requirements of this specification, as well as any and all applicable national, state and local codes and standards.

1.03 WORK SEQUENCE

- A. Construct Work in sequence under provisions of Division 1.

1.04 COORDINATION

- A. Coordinate the Work specified in this Division under provisions of Division 1.
- B. Prepare drawings showing proposed rearrangement of Work to meet job conditions, including changes to Work specified under other Sections. Obtain permission of Architect prior to proceeding.

1.05 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code, latest adopted edition including all state and local amendments.
- B. NECA - Standard of Installation.
- C. NETA ATS – Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- D. Electrical Reference Symbols: The Electrical "Legend" on drawings is standardized version for this project. All symbols shown may not be used on drawings. Use legend as reference for symbols used on plans.
- E. Electrical Drawings: Drawings are diagrammatic; complimentary to the Architectural drawings; not intended to show all features of work. Install material not dimensioned on

drawings in a manner to provide a symmetrical appearance. Do not scale drawings for exact equipment locations. Review Architectural, Civil, Structural, and Mechanical Drawings and adjust work to conform to conditions shown thereon. Field verification of dimensions, locations and levels is directed.

1.06 REGULATORY REQUIREMENTS

- A. Conform to ANSI/NFPA 70.
- B. Conform to the latest adopted edition of the International Building Code and the International Fire Code including all state and local amendments thereto.
- C. Obtain electrical permits, plan review, and inspections from authority having jurisdiction.

1.07 SUBMITTALS

- A. Submittal review is for general design and arrangement only and does not relieve the Contractor from any requirements of Contract Documents. Submittal not checked for quantity, dimension, fit or proper operation. Where deviations of substitute product or system performance have not been specifically noted in the submittal by the Contractor, provisions of a complete and satisfactory working installation are the sole responsibility of the Contractor.
- B. In addition to requirements referenced in Division 1, the following is required for work provided under this division of the specification.
 - 1. Provide material and equipment submittals containing complete listings of material and equipment shown on Electrical Drawings and specified herein. Separate from work furnished under other divisions.
 - 2. Submittals shall be provided in PDF format with each section indexed in the PDF document. Submittals for Division 26 shall be complete and submitted at one time. Unless given prior approval, partial submittals will be returned unreviewed.
 - 3. Clearly identify all material and equipment by item, name or designation used on drawings and in specifications.
 - 4. Submit only pages which are pertinent; mark catalog sheets to identify pertinent products, referenced to specification section and Article number. Show reference standards, performance characteristics, and capacities; wiring diagrams and controls; component parts; finishes; dimensions; and required clearances.
 - 5. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
 - 6. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
 - 7. Coordinate submittals with requirements of work and of Contract Documents.
 - 8. Certify in writing that the submitted shop drawings and product data are in compliance with requirements of Contract Documents. Notify Architect/Engineer in writing at time of submittal, of any deviations from requirements of Contract Documents.
 - 9. Do not fabricate products or begin work which requires submittals until return of submittal with Architect/Engineer acceptance.
 - 10. Equipment scheduled by manufacturer's name and catalog designations, manufacturer's published data and/or specification for that item, in effect on bid date,

are considered part of this specification. Approval of other manufacturer's item proposed is contingent upon compliance therewith.

1.08 SUBSTITUTIONS

- A. In accordance with the General Conditions and the General Requirements, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment.

1.09 PROJECT RECORD DRAWINGS

- A. Maintain project record drawings in accordance with Division 1.
- B. In addition to the other requirements, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all electrical work which will become permanently concealed. Show routing of work in permanently concealed blind spaces within the building. Show complete routing and sizing of any significant revisions to the systems shown.
- C. Record drawing field mark-ups shall be maintained on-site and shall be available for examination of the Owner's Representative at all times.

1.10 DEMONSTRATION OF ELECTRICAL SYSTEMS

- A. During substantial completion inspection:
 - 1. Conduct operating test for approval under provisions of Division 1.
 - 2. Demonstrate installation to operate satisfactorily in accordance with requirements of Contract Documents.
 - 3. Should any portion of installation fail to meet requirements of Contract Documents, repair or replace items failing to meet requirements until items can be demonstrated to comply.
 - 4. Have instruments available for measuring light intensities, voltage and current values, and for demonstration of continuity, grounds, or open circuit conditions.
 - 5. Provide personnel to assist in taking measurements and making tests.

1.11 WARRANTY

- A. In addition to the requirements of Division 1, or as specified in other sections. Warrant all materials, installation and workmanship for one (1) year from date of acceptance.
- B. Copies of manufacturer product warranties for all equipment shall be included in the operation and installation manuals.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All Materials and Equipment shall be new.
- B. All Materials and Equipment shall be listed by Underwriter's Laboratories or equivalent third party listing agency for the use intended.

- C. Materials and Equipment shall be acceptable to the authority having jurisdiction as suitable for the use intended when installed per listing and labeling instructions.
- D. No materials or equipment containing asbestos in any form shall be used. Where materials or equipment provided by this Contractor are found to contain asbestos such items shall be removed and replaced with non-asbestos containing materials and equipment at no cost to the Owner.
- E. In describing the various items of equipment, in general, each item will be described singularly, even though there may be numerous similar items.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. Install Work using procedures defined in NECA Standard of Installation and/or the manufacturer's installation instructions.

3.02 TESTS

- A. Notify the Owner's representative at least 72 hours prior to conducting any tests.
- B. Following completion of installation, test system ground in accordance with the requirements of NETA ATS 7.13. and all feeders in accordance with NETA ATS 7.3. Submit logs of values obtained, and nameplate data of instruments used prior to final inspection. Include a copy of all data in the power distribution section of the Operation and Maintenance Manuals.
- C. Perform additional tests required under other sections of these specifications.
- D. Perform all tests in the presence of the Owner's representative.

3.03 PENETRATIONS OF FIRE BARRIERS

- A. All holes or voids created to extend electrical systems through fire rated floors, walls or ceiling shall be sealed with an asbestos-free intumescent fire stopping material capable of expanding 8 to 10 times when exposed to temperatures 250°F or higher.
- B. Materials shall be suitable for the fire stopping of penetrations made by steel, glass, plastic and shall be capable of maintaining an effective barrier against flame, smoke and gases in compliance with the requirements of ASTM E814 and UL 1479.
- C. The rating of the fire stops shall be the same as the time-rated floor, wall or ceiling assembly.
- D. Install fire stopping materials in accordance with the manufacturer's instructions.
- E. Unless protected from possible loading or traffic, install fire stopping materials in floors having void openings of four (4) inches or more to support the same floor load requirements as the surrounding floor.

END OF SECTION

SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Electrical Demolition.

1.03 RELATED SECTIONS

- A. Division 1 - Alteration Procedures.
- B. Division 2 – Demolition.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition Drawings are based on a non-destructive walkthrough. Report discrepancies to Architect/Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

- B. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Demolish and extend existing electrical work under provisions of Division 1, Division 2, and this Division.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Remove abandoned wiring to source of supply.
- D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- E. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- F. Repair adjacent construction and finishes damaged during demolition and extension work. T-bar ceiling tiles damaged under normal construction conditions or having voids where junction boxes were removed shall be replaced by the Contractor.
- G. Maintain access to existing electrical installations which remain active.
- H. Extend existing installations using materials and methods as specified.
- I. Where materials or equipment are to be turned over to Owner or reused and installed by the Contractor, it shall be the Contractor's responsibility to maintain condition of materials and equipment equal to the existing condition of the equipment before the work began. Repair or replace damaged materials or equipment at no additional cost to the Owner.

3.04 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.

3.05 INSTALLATION

- A. Install relocated materials and equipment under the provisions of Division 1.

3.06 DISPOSAL

- A. Dispose of all hazardous waste in accordance with all local, State and Federal requirements.

END OF SECTION

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Electrical Equipment and Raceway Grounding and Bonding.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 1 General Requirements, Section 26 05 00 – Common Work Results for Electrical, and Division 27.

1.04 REFERENCE STANDARDS

- A. ASTM B 3 – Standard Specification for Soft or Annealed Copper Wire.
- B. IEEE Std 142 – Recommended Practice for Grounding of Industrial and Commercial Power System.
- C. UL 467 – Standard for Grounding and Bonding Equipment.

1.05 SYSTEM DESCRIPTION

- A. Provide a complete grounding system for services and equipment as required by State and Local Codes, NEC, applicable portions of other NFPA codes, and as indicated herein.

1.06 SUBMITTALS

- A. Product Data: Submit product data for all components provided, showing material type and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.

1.07 COORDINATION

- A. Division 1 – Administrative Requirements: Requirements for Coordination.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bonding Conductors: Solid bare copper wire for sizes No. 8 AWG and smaller diameter. Stranded bare copper wire for sizes No. 6 AWG and larger diameter. Conductors may be insulated conductors if used provide green insulation.
- B. Grounding Conductors: Copper conductor bare or green insulated.
- C. Mechanical Grounding and Bonding Connectors: Non-reversible crimp type lugs only. Use factory made compression lug for all terminations.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Provide a separate, insulated equipment-grounding conductor in all new branch circuits. Terminate each end on a grounding lug, bus, or bushing. Multiple conductors on single lug not permitted. Each grounding conductor shall terminate on its own terminal lug.
- B. Bond together exposed non-current carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, and receptacle ground connectors.
- C. Grounding conductors for branch circuits shall be sized in accordance with NEC, except minimum size grounding conductor shall be No. 12 AWG.
- D. Grounding conductor is in addition to neutral conductor and in no case shall neutral conductor serve as grounding means.

3.02 FIELD QUALITY CONTROL

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.
- B. Continuity Test: Continuity test shall be performed on all power receptacles to ensure that the ground terminals are properly grounded to the facility ground system.

END OF SECTION

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Section included hangers and supports for Power Systems and Communication Systems.
- B. Conduit Supports.
- C. Formed Steel Channel.
- D. Spring Steel Clips.
- E. Sleeves.
- F. Mechanical Sleeve Seals.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 1 General Requirements, and Section 26 05 00 – Common Work Results for Electrical, and Division 27.

1.04 REFERENCES

- A. International Building Code (IBC), Chapter 16 – Structural Design.

1.05 SUBMITTALS

- A. Division 1: Requirements for submittals.
- B. Product Data: Submit product data for specialty supports.

1.06 QUALITY ASSURANCE

- A. Support systems shall be adequate for weight of equipment and conduit, including wiring, which they carry.

PART 2 - PRODUCTS

2.01 CONDUIT SUPPORTS

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. Minerallac Fastening Systems.
 - 3. O-Z Gedney Co.
 - 4. Substitutions: per Division 1
- B. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
- C. Beam Clamps: Malleable Iron, with tapered hole in base and back to accept either bolt or hanger rod. Set screw: hardened steel.
- D. Conduit clamps for trapeze hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.
- E. Conduit clamps - general purpose: One-hole malleable iron for surface mounted conduits.
- F. Cable Ties: High strength nylon temperature rated to 185 degrees F. self-locking.

2.02 FORMED STEEL CHANNEL

- A. Manufacturers:
 - 1. B-Line Systems.
 - 2. Allied Tube & Conduit Corp.
 - 3. Unistrut Corp.
 - 4. Substitutions: per Division 1.
- B. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.

2.03 SLEEVES

- A. Sleeves Through Non-fire Rated Floors: 18 gage thick galvanized steel.
- B. Sleeves Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.
- C. Sleeves Through Fire Rated and Fire Resistive Floors and Walls, and Fire Proofing: Prefabricated fire rated sleeves including seals, UL listed.
- D. Fire-stopping Insulation: Glass fiber type, non-combustible.

2.04 MECHANICAL SLEEVE SEALS

- A. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Division 1: Verification of existing conditions before starting work.
- B. Verify openings are ready to receive sleeves.

3.02 PREPARATION

- A. Obtain permission from Owner's Representative before using powder-actuated anchors.
- B. Obtain permission from Owner's Representative before drilling or cutting structural members.

3.03 INSTALLATION - GENERAL

- A. Fasten hanger rods, conduit clamps, and outlet and junction boxes to building structure using precast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.
- B. Use toggle bolts or hollow wall fasteners in hollow masonry partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion anchor on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.
- C. Do not support raceways, low voltage pathways, cables, telecommunication pathways or boxes from ceiling suspension wires or suspended ceiling systems. Provide support from building structure independently to allow ceiling removal and replacement without removal of electrical system. If dedicated support wires are used, wires and wire clips must be painted or color-coded.
- D. Do not fasten supports to piping, ductwork, mechanical equipment, conduit, or ceiling suspension system.
- E. Do not penetrate by drilling or screwing into metal roof decking. All penetrations into metal roof decking must be approved by the Project Manager in writing.
- F. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- G. Securely fasten fixtures and equipment to building structure in accordance with manufacturer's recommendations and to provide necessary earthquake anchorage.
- H. Earthquake Anchorages:

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

Division 26
Section 26 05 29

1. Equipment weighing more than 50 pounds shall be adequately anchored to the building structure to resist lateral earthquake forces.
2. Total lateral (earthquake) forces shall be 1.5 times the equipment weight acting laterally in any direction through the equipment center of gravity. Provide adequate backing at structural attachment points to accept the forces involved.

3.04 INSTALLATION - SLEEVES

- A. Exterior watertight entries: Seal with adjustable interlocking rubber links.
- B. Conduit penetrations not required to be watertight: Sleeve and fill with silicon foam.
- C. Set sleeves in position in forms. Provide reinforcing around sleeves.
- D. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- E. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
- F. Where conduit or raceway penetrates floor, ceiling, or wall, close off space between conduit or raceway and adjacent work with insulation and caulk airtight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.

END OF SECTION

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Conduit.
- B. Boxes.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 1 General Requirements, Division 26 and Division 27.
- B. Section 26 05 29 – Hangers and Supports for Electrical Systems.
- C. Section 26 27 26 – Wiring Devices.
- D. Section 27 05 28 - Pathways for Communications Systems.

1.04 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
 - 2. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 123 – Specification for Zinc Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strip.
- C. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 - 2. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.

D. Telecommunications Industry Association (TIA) and Electronics Industries Association (EIA):

1. ANSI/TIA/EIA 568 Commercial Building Telecommunications Cabling Standard.

E. Building Industry Consulting Service International (BICSI):

1. BICSI Telecommunication Design Methods Manual.

1.05 RACEWAY AND BOX INSTALLATION SCHEDULE

A. In or through CMU walls:

1. Raceway: Provide rigid steel conduit or intermediate metal conduit. EMT conduit may penetrate through CMU walls where the EMT is installed in a sleeve and does not come in direct contact with the CMU. All conduit in contact with concrete or block shall be rigid steel conduit half lapped wrapped with pipe wrap or be plastic-coated conduit.

B. Outdoor Above Grade, Damp or Wet Interior Locations:

1. Raceway: Provide rigid steel conduit or intermediate metal conduit.
2. Boxes and Enclosures: Provide weatherproof malleable iron for branch circuit junction and outlet boxes. Provide weatherproof NEMA 3R sheet metal enclosures for safety and disconnect switches and NEMA 4 sheet metal enclosures with gaskets for motor controllers and control panels.
3. Fittings: Provide galvanized malleable iron with gaskets. Provide Myers threaded hubs for all conduit entries into top and side of sheet metal enclosures.

C. Concealed Dry Locations:

1. Raceway: Provide rigid steel conduit, intermediate metal conduit, or electrical metallic tubing.
2. Boxes and Enclosures: Provide sheet-metal boxes.
3. Fittings: Provide galvanized malleable iron and steel.

D. Exposed Dry Locations:

1. Raceway: Provide rigid steel conduit, intermediate metal conduit, or electrical metallic tubing.
2. Boxes and Enclosures: Provide sheet-metal boxes with raised steel covers.
3. Fittings: Provide galvanized malleable iron and steel.
4. Surface Raceway and Boxes: Where specifically noted on the Drawings, provide surface raceway and boxes.

E. Equipment Connections: Provide short extensions (three feet maximum) of flexible metal conduit for connections to light fixtures, motors, transformers, vibrating equipment or equipment that requires removal for maintenance or replacement. Use Liquidtight flexible conduit and fittings for motors and equipment in damp or wet locations or subject to spilling of liquids as at pumps, kitchen equipment, in mechanical rooms, boiler rooms, pump rooms, etc.

F. Liquidtight flexible nonmetallic conduit and electrical nonmetallic tubing are not approved raceway systems for this project.

1.06 DESIGN REQUIREMENTS

A. Raceway Minimum Size:

1. Above Grade or Within Slab: Provide 1/2 inch minimum, unless otherwise noted.
2. Line Voltage Circuits: Raceway is sized on the drawings for copper conductors with 600-Volt type XHHW insulation, unless otherwise noted. Where a raceway size is not shown on the drawings, it shall be calculated to not exceed the percentage fill specified in the NEC Table 1, Chapter 9 using the conduit dimensions of the NEC Table 4, Chapter 9 and conductor properties of the NEC Table 5, Chapter 9.

B. Box Minimum Size: Provide all boxes sized and configured per NEC Article 370 and as specified in this section.

C. Telecommunication Pathways Layout and Configuration: BICSI Telecommunication Design Methods Manual and ANSI/TIA/EIA 568 Commercial Building Telecommunications Cabling Standard.

1.07 SUBMITTALS

A. Submit product data under provisions of Division 1.

B. Product Data: Submit data for products.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

PART 2 - PRODUCTS

2.01 RIGID METAL CONDUIT (RMC)

A. Rigid Steel Conduit: ANSI C80.1, UL 6.

B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; Galvanized malleable iron with threaded hubs for all conduit entries. Provide threaded connections and couplings only. Set Screw and running thread fittings are not permitted.

C. Provide insulated throat bushings at all conduit terminations.

2.02 INTERMEDIATE METAL CONDUIT (IMC)

A. Product Description: ANSI C80.6, UL 1242; Galvanized Steel Conduit.

B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; use fittings and conduit bodies specified above for rigid steel conduit.

C. Provide insulated throat bushings at all conduit terminations.

2.03 FLEXIBLE METAL CONDUIT (FMC)

- A. Product Description: UL 1, FS WW-C-566; galvanized or zinc-coated flexible steel, full-wall or reduced wall thickness.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron with insulated throat bushings. Die cast zinc or threaded inside throat fittings are not acceptable.

2.04 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Product Description: UL 360, flexible metal conduit with interlocked steel construction and PVC jacket.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; liquid tight steel or malleable iron with insulated throat bushings. Die cast fittings are not acceptable.

2.05 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3, UL 797; galvanized steel tubing.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron, compression or set screw type with insulated throat bushings. Zinc die cast or indentor fittings are not acceptable.
- C. Provide factory elbows on sizes 1-1/2" and larger.

2.06 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, UL514A galvanized steel, with plaster ring where applicable.
 - 1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.
 - 2. Telecommunications Outlets: Minimum size 4-11/16 inches square, 2-1/8 inches deep.
- B. Cast Boxes: NEMA FB 1, Type FD, galvanized malleable iron or copper-free cast aluminum. Furnish gasketed cover by box manufacturer. Furnish threaded hubs. "Bell" boxes are not allowed.

2.07 PULL AND JUNCTION BOXES

- A. Sheet Metal Pull and Junction Boxes: ANSI/NEMA OS 1, UL514A galvanized steel.
 - 1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.
- B. Sheet Metal Boxes Larger Than 12 Inches in Any Dimension: Hoffman or approved equal.
- C. Boxes for Outdoor and Wet Location Installations: NEMA 250, Type 3R; flat-flanged, surface mounted junction box:
 - 1. Material: Galvanized cast iron.

2. Cover: Furnish with ground flange, neoprene gasket, and stainless steel cover and screws.

2.08 EXPANSION FITTINGS

- A. Galvanized malleable iron, galvanized with grounding bond jumper.

2.09 BUSHINGS

- A. Non-grounding: Threaded impact resistant plastic.
- B. Grounding: Insulated galvanized malleable iron/steel with hardened screw bond to raceway and conductor lug.

2.10 LOCKNUTS

- A. Threaded Electro Zinc Plated Steel designed to cut through protective coatings for ground continuity.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 26 05 26.
- B. Provide support and fasten raceway and box supports to structure and finishes in accordance with Section 26 05 29.
- C. Unless otherwise noted, do not inter-mix conductors from separate panelboards or any other system in the same raceway system or junction boxes.

3.02 INSTALLATION - GENERAL RACEWAY

- A. Install raceway for all systems, unless otherwise noted.
- B. Install an equipment grounding conductor inside of all raceways containing line voltage conductors.
- C. Provide raceways concealed in construction unless specifically noted otherwise, or where installed at surface cabinets, motor and equipment connections and in Mechanical and Electrical Equipment rooms. Do not route conduits on roofs, outside of exterior walls, or along the surface of interior finished walls unless specifically noted on the plans.
- D. Raceway routing and boxes are shown in approximate locations unless dimensioned. Where raceway routing is not denoted, field-coordinate to provide complete wiring system.
- E. Do not route raceways on floor. Where surface raceways are allowed in equipment rooms, arrange raceway and boxes to maintain a minimum of 6 feet 6 inches of headroom and present a neat appearance. Install raceways level and square. Route exposed raceways and raceways above accessible ceilings parallel and perpendicular to walls, ceiling, and adjacent piping.

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

Division 26
Section 26 05 33

- F. Maintain minimum 6-inch clearance between raceway and mechanical and piping and ductwork. Maintain 12-inch clearance between raceway and heat sources such as flues, steam pipes, heating pipes, heating appliances, and other surfaces with temperatures exceeding 104 degrees F.
- G. Do not install raceway embedded in spray applied fire proofing.
- H. Where raceway penetrates fire-rated walls and floors, seal raceway penetrations of fire-rated walls, ceilings, floors in accordance with the requirements of Section 26 05 00 and Division 07.
- I. Raceways and boxes penetrating vapor barriers or penetrating areas from cold to warm shall be taped and sealed with a non-hardening duct sealing compound to prevent the accumulation of moisture, and shall include a vapor barrier on the outside.
- J. Arrange raceway supports to prevent misalignment during wiring installation.
- K. Do not attach raceway to ceiling support wires or other piping systems and do not fasten raceway with wire or perforated pipe straps. Remove all wire used for temporary raceway support during construction, before conductors are pulled. Raceway shall be installed to permit ready removal of equipment, piping, ductwork, or ceiling tiles.
- L. Group raceway in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps, as specified in Section 26 05 29. Provide space on each rack for 25 percent additional raceway.
- M. Cut conduit square; de-burr cut ends. Bring conduit to the shoulder of fittings and couplings and fasten securely.
- N. Use threaded raintight conduit hubs for fastening conduit to cast boxes, and for fastening conduit to sheet metal boxes in damp or wet locations. Sealing locknuts are not acceptable.
- O. Install no more than 360-degrees of bends between boxes.
- P. Install conduit bodies to make sharp changes in direction, such as around beams. "Goosenecks" in conduits are not acceptable.
- Q. Provide protective plastic bushings or insulated throat bushings at each raceway termination not installed to an enclosure. Bushings shall be threaded to the raceway end or connector.
- R. Avoid moisture traps; install junction box with drain fitting at low points in raceway system.
- S. Install fittings and flexible metal conduit to accommodate 3-axis movements where raceway crosses seismic joints.
- T. Install fittings designed and listed to accommodate expansion and contraction where raceway crosses control and expansion joints.
- U. Provide weatherhead or threaded cap on all raceway stub ups which are outdoors and do not terminate into equipment.

- V. Use cable sealing fittings forming a watertight non-slip connection to pass cords and cables into conduit. Size cable sealing fitting for the conductor outside diameter. Use Appleton CG series or equal cable sealing fittings.
- W. Use suitable caps to protect installed raceway against entrance of dirt and moisture.
- X. Provide nylon "jet-line" or approved equal pull string in empty raceway, except sleeves and nipples.
- Y. Paint all exposed conduit in finished spaces to match surface to which it is attached or crosses. Clean greasy or dirty conduit prior to painting in accordance with paint manufacturer's instructions. Where raceway penetrates non-rated ceilings, floors or walls, provide patching, paint and trim to retain architectural aesthetics similar to surroundings.

3.03 REUSE OF EXISTING CONDUITS

- A. Where shown on Drawings that existing conduits may be used, that is only applicable if the existing conduit meets the following minimum criteria:
 - 1. Conduit is sized per minimum NEC requirements.
 - 2. Conduit is properly supported as required in the Contract Documents.
 - 3. Conduit is in good, useable condition and is not deformed, damaged or showing signs of corrosion.
 - 4. Conduit is of the type specified and allowable in the Contract Documents.

3.04 INSTALLATION – GENERAL BOXES

- A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance. All electrical box locations shown on Drawings are approximate unless dimensioned.
- B. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. Where installation is inaccessible, install outlet and junction boxes no more than 6 inches from ceiling access panel. Coordinate locations and sizes of required access doors with Division 08.
- C. Coordinate layout and installation of boxes to provide adequate headroom and working clearance and to present a neat appearance. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- D. Unless otherwise dimensioned on Plans, align wall-mounted outlet boxes for switches, thermostats, and similar devices.
- E. Adjust box location up to 6 feet prior to rough-in to accommodate intended purpose.
- F. Provide knockout closures for unused openings.
- G. Install boxes in walls without reducing effectiveness of wall insulation or vapor barrier.
- H. Install with minimum 24 inches separation in fire rated walls. Limit penetrations in fire rated walls to 16 square inches each and a maximum total combined penetration area of 100 square inches in any given 100 square feet of wall. Where penetrations are in excess of these requirements, provide UL listed fire stop wrap acceptable to Authority having Jurisdiction.

- I. Do not fasten boxes to ceiling support wires or other piping systems.
- J. Support boxes independently of conduit.
- K. Clean interior of boxes to remove dust, debris, and other material and clean exposed surfaces and restore finish.
- L. Provide blank covers or plates for all boxes that do not contain devices.
- M. Paint all exposed boxes in finished spaces to match surface to which it is attached to. Clean greasy or dirty boxes prior to painting in accordance with paint manufacturer's instructions.

3.05 INSTALLATION – TELECOMMUNICATION RACEWAYS AND SLEEVES

- A. Provide continuous pathway system for all telecommunication cables. Provide cable pathway support in accordance with Section 26 05 29.
- B. Install the telecommunication pathways in accordance with requirements for Installation of General Conduit and General Boxes above unless superseded by more stringent requirements of this section or ANSI/TIA568-D and the latest published edition of the BICSI Telecommunication Distribution Methods Manual guidelines and recommendations.
- C. Provide pathways for all telecommunication cables with Conduit or J-hooks for the entire length of each cable.
- D. Conduit Pathways:
 - 1. Install pull boxes in continuous straight runs of conduit longer than 100 feet.
 - 2. Maximum allowable continuous conduit section length of 100 feet between pull boxes.
 - 3. Contain no more than two 90-degree bends or de-rate conduit capacity 15% for up to one additional 90-degree bend. Conduits less than 33 feet long, oversized one trade size or with one of the 90-degree bends within 12 inches of a pull box may have up to three 90 degree bends without de-rating.
 - 4. Rate each offset as a 90-degree bend.
 - 5. Condulets (LB fittings) shall not be installed in any telecommunications raceway.
 - 6. Do not use flexible metal conduit unless specifically noted on the plans or approved by the engineer where it is the only practical alternative. Increase raceway one trade size above required size where flexible metal conduit is used.
 - 7. Provide bend radius of 6 times of the internal conduit diameter of conduits up to 2 inches.
 - 8. Provide conduit pathways through walls with insulated bushings on each end for all wall penetrations of cables.
- E. Provide J-Hooks in accordance with Section 26 05 29 to provide telecommunication pathway anywhere cable tray, conduit, or ladder rack is not denoted on the plans and one or more telecommunication cables are routed.

END OF SECTION

WIRING DEVICES

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. Receptacles.
- B. Device Plates and Box Covers.

1.03 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 1 - General Requirements and Section 26 05 00 – Common Work Results for Electrical.
- B. Section 26 05 26 – Grounding and Bonding for Electrical Systems.
- C. Section 26 05 33 – Raceway and Boxes for Electrical Systems.

1.04 REFERENCE STANDARDS

- A. FS W-C-596 – Federal Specification for Electrical Power Connector, Plug, Receptacle, and Cable Outlet.
- B. NEMA WD 1 - General Color Requirements for Wiring Devices.
- C. ANSI/NEMA WD 6 – Wiring Devices – Dimensional Requirement.
- D. UL 498 - Attachment Plugs and Receptacles.
- E. UL 943 – Ground-Fault-Circuit-Interrupters.

1.05 SUBMITTALS

- A. Product Data: Submit product data for all components provided that are specified in this section showing configurations, finishes, and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - RECEPTACLES

- A. Hubbell.
- B. Leviton.
- C. Pass & Seymour.
- D. Arrow Hart
- E. Substitutions: Under provisions of Division 1.

2.02 RECEPTACLES

- A. Convenience and Straight-blade Receptacles: UL 498, ANSI/NEMA WD-6 and Federal Specification FS W-C-596 industrial grade receptacle.
- B. Convenience Receptacle Configuration: ANSI/NEMA WD-6; Type 5-20R, white nylon face.
- C. GFCI Receptacles: ANSI/NEMA WD-6; 20A, duplex convenience receptacle with integral class 'A' ground fault current interrupter, LED indicator lamp and integral lockout.
- D. Tamper-Resistant Receptacles: ANSI/NEMA WD-6; Complying with the requirements of UL 498 (section 131) and NEC 406.12-14.
- E. Weather-Resistant Receptacles: ANSI/NEMA WD-6; Listed to the weather-resistant supplement of UL498 and complying with the requirements of NEC 406.9.

2.03 DEVICE PLATES

- A. Weatherproof Cover Plate: UL listed, cast aluminum, hinged outlet cover/enclosure, with gasket between the enclosure and the mounting surface, suitable for wet locations while in use and identified as "Extra Duty" per NEC 406.9 (B)(1).

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install convenience receptacles as high as possible in curbs, grounding pole on bottom.
- B. Ground receptacles to boxes with a grounding wire. Grounding through the yoke or screw contact is not an acceptable alternate to the ground wire.
- C. Install circuit label on each receptacle.

END OF SECTION

PATHWAYS FOR COMMUNICATION SYSTEMS

PART 1 - GENERAL

1.01 NOTIFICATION OF POTENTIAL HAZARDS

- A. Notification of Potential Hazards: Asbestos, lead and other potentially hazardous materials are present in the building that may impact the work of all trades. Regulated air contaminants, including asbestos and lead are also present in the settled and concealed dust in and on architectural, structural, mechanical and electrical components or systems throughout the building. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. Refer to Specification Divisions 0, 1 and 2 for specific information concerning disturbing, removing and disposing of these materials and the installation of new materials or components. This notification is provided in accordance with the EPA and OSHA requirements.

1.02 SECTION INCLUDES

- A. J-Hooks.

1.03 RELATED SECTIONS

- A. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- B. Section 26 05 29 – Hangers and Supports for Electrical Systems
- C. Section 26 05 26 – Grounding and Bonding of Electrical Systems.

1.04 REFERENCES

- A. National Electric Code (NFPA 70) Article 250 - Grounding.
- B. National Electric Code (NFPA 70) Article 800 - Communications Circuits.
- C. ANSI/TIA/EIA-568-B -- Commercial Building Telecommunications Cabling Standards.
- D. BICSI Telecommunications Distribution Methods Manual - Latest published edition.
- E. UL Standards - UL 94HB, UL 723, and UL 2043.

1.05 SUBMITTALS

- A. Submit product data under provisions of Division 1.

PART 2 - PRODUCTS

2.01 J-HOOKS

- A. All cables not installed in conduit shall be supported using Caddy CableCat series or approved equal J-hooks with galvanized finish. J-hooks shall have a cable retainer strap to provide containment of cables within the hanger. The cable retainer strap shall be removable and reusable and be suitable for use in air handling spaces. The minimum J-

hook size shall be equivalent to Caddy #Cat32. Size all J-hooks to support the quantity of cables installed, plus a minimum of 25% spare capacity. Fiber optic cables shall be routed in 1" innerduct that is supported on a separate J-hook above the J-hook supporting the copper cables.

PART 3 - EXECUTION

3.01 INSTALLATION – GENERAL

- A. Provide continuous pathway system for all low voltage cable systems. J-hooks may utilize the same vertical support.
- B. Coordinate all pathway runs with other trades prior to installation. Report conflicts to Owner.
- C. Support pathway from building to support structure or sub structure in accordance with Section 26 05 29. Do not support pathway from ceiling tiles, ceiling grid, hanger wires, ductwork, piping, or other equipment hangers that are not part of the cable pathway support system.
- D. In areas with accessible ceilings where cable is not installed in conduit, provide J-hooks spaced every 4 to 5 feet, varying the distance between each support.
- E. Provide a minimum of 12 inches headroom above all types of cable supports.
- F. Provide cable support within 18 inches of each transition of pathway system types. This includes transitioning from any one to any other of the following cable support systems such as raceway, sleeves, or J-hooks.
- G. Set J-hooks so that changes in direction do not exceed 45 degrees.

END OF SECTION

Community Workforce Agreement

for the

_____ **(Project name)**

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PREAMBLE

The Anchorage School District (Public Entity/Owner, hereinafter referred to as “Owner” or “District”), is committed to securing the best value for public construction funds, and to putting such funds to work for the benefit and improved general welfare of residents of the community, and in particular, community members in focus categories such as military veterans, members of the National Guard and reservists; adults skilled in the construction trades; people of color; women; District graduates, young people and unskilled adults, socially and economically disadvantaged members of the community; and individuals facing reentry into the community after leaving a State of Alaska correctional facility. The Building and Construction Trades Council of Southcentral Alaska (hereinafter, the “Council”) is committed to preserving work traditionally performed by community members represented by the Council and its member organizations, and to creating employment opportunities for such individuals as well as for community members in the Owner’s priority categories.

The Owner seeks to expand training and employment opportunities for District graduates, to gain ready access to a competent workforce for current as well as future projects, and to secure cost savings by employing skilled apprentices to work with more experienced workers on public construction projects. The Council seeks to participate in creating the workforce of the future, and to making such cost savings available to the Owner on present and future construction projects.

To these ends, the Council and its member organizations agree to provide the Owner, its contractors and subcontractors, with viable tools, including bona fide apprenticeship and training programs with proven track records of graduating skilled apprentices, and hiring and job referral systems designed to prioritize area resident and special applicant employment preferences as described above in Paragraph 1. The Owner agrees the interests of the community will be served by the utilization of these tools, and that the Owner can effectively achieve the goals stated herein by utilizing a Community Workforce Agreement (hereinafter the “CWA”) to build projects constructed with public funds.

ARTICLE 1 PRODUCTIVITY

1.1 This CWA is intended to ensure that all construction work on the _____ (Public Project, hereinafter, the “Project”) proceeds without interruption or delay, that all participants work cooperatively in accordance with the highest standards of excellence and professionalism, and that disputes are resolved in an effective, expeditious manner.

ARTICLE 2 FAIR CONTRACTING OPPORTUNITIES

2.1 This CWA is intended to provide access to fair and competitive work opportunities for all contractors, and subcontractors. The Owner or Contractor, as appropriate, has the right to select all qualified bidders or subcontractors to perform work on the Project subject only to the Letter of Assent requirement set forth in Article 8.

2.2 The Council and all signatory labor organizations shall work cooperatively with the Owner, Contractor and all subcontractors awarded work on the Project regardless of whether the Contractor or subcontractors have performed or are performing work on other projects under contract with the Council or any labor organization signatory to this CWA (hereinafter, "signatory labor organization").

2.3 The Owner and/or the Project Contractor have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement; provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Project Agreement, should it be designated the successful bidder.

ARTICLE 3 THE PARTIES

3.1 This CWA is entered into by Contractor selected by the Owner to be responsible for construction of the Project (hereinafter, the "Contractor"), for and on behalf of itself and its subcontractors of any tier, the Building and Construction Trades Council of South-Central Alaska (hereinafter, the "Council") and all signatory labor organizations. The Owner, Contractor, all subcontractors, the Council and signatory labor organizations may be referred to individually as a "Party" and collectively as the "Parties."

ARTICLE 4 TERM OF AGREEMENT

4.1 This CWA shall become effective on the ____ day of _____, 20__ and shall continue in full force and effect until completion of all Covered Work. Termination of this CWA shall occur upon receipt by the Council of written notice from the Owner, of Project completion.

ARTICLE 5 CONSTRUCTION OF THE PROJECT

5.1 This CWA shall apply to all phases of construction of the Project, from site preparation, startup through clean-up, including rework, change orders and extensions of the Project, to completion certified in writing by the Owner. Construction of the Project will be undertaken pursuant to a contract between the Owner and the Contractor pursuant to contract documents executed between the Owner and the Contractor (hereinafter, the "Contract"). The Owner, at its sole option, may terminate, delay and/or suspend any or all portions of the Project at any time.

5.2 The Owner will implement this Article by including appropriate, binding provisions in the Contract and Solicitation documents establishing execution of and compliance with this CWA as conditions of the job award and construction of the Project.

ARTICLE 6 COVERED WORK AND SERVICES

6.1 This CWA shall apply to all activities engaged in or performed at the direction of the Contractor pursuant to the Contract, and by subcontractors awarded contracts to perform work on the Project (hereinafter, "Covered Work"). Covered work shall include all construction work traditionally performed by workers represented by the Council or members of the Council, including site preparation, dedicated off site lay down yard to the extent permitted by law, storage yard work, supply and delivery of concrete, and surveying. The site of construction is defined as _____ (hereinafter, the "Work Site") and shall refer to all locations at which the Contractor or subcontractors perform Covered Work.

6.2 This CWA applies only to covered work performed on the specific project Work Site listed above. It does not apply to, nor any rights of the parties under this agreement extended to, Contractors or sub-Contractors work on other projects outside the Covered Work of this agreement.

6.3 Nothing contained herein shall be construed to prohibit, restrict, or interfere with the performance of any other operation, work, or function which may occur at the Project site or be associated with the development of the Project.

6.4 This Agreement shall only be binding on the signatory parties hereto and shall not apply to their parents, affiliates, or subsidiaries.

ARTICLE 7 EXCLUDED WORK AND SERVICES

- 7.1 The following work is excluded from the scope of this CWA:
- a. Non-manual work
 - b. Work performed by employees employed by the Owner.
 - c. Any work performed on, near, leading to, or into the Project Site by State, County, City or other governmental bodies, their contractors, or by public or private utilities or their contractors.
 - d. On and off-site maintenance of leased equipment and on-site supervision of such work.
 - e. Required equipment warranty work, and the onsite supervision of such work.
 - f. Startup, commissioning, specialty testing or inspections done by the Owner, Contractor or Subcontractors, unless such work is traditionally performed by employees represented by the Council or its members, in which case it is not excluded.
 - g. Off-site manufacture of materials, equipment, or machinery; the repair, maintenance, assembly, painting, handling or fabrication of components; or, work involved in deliveries to and from the Work Site; however, when subcontracting for prefabrication of materials to be installed on the Project, such prefabrication shall be subcontracted to fabricators who pay their employees engaged in such fabrication not less than the appropriate Alaska prevailing wage for comparable fabrication, as set by Alaska Statute Title 36, Public Contracts.
 - h. Furniture, fixture and equipment installation and other work performed after the Contractor and Subcontractors have completed construction work and or after the Contract completion date.
 - i. Any work within the historic jurisdiction of the Outside Construction Branch of the International Brotherhood of Electrical Workers Local Union 1547.

ARTICLE 8 COMPLIANCE WITH AGREEMENT

8.1 All Covered Work will be contracted only to the Contractor and those subcontractors who agree to become and remain signatory to this CWA for the duration of the Project. The Contractor and all subcontractors shall fulfill this commitment by executing a Letter of Assent (Attachment 1) prior to commencing Covered Work. A signed copy of the Letter of Assent shall be transmitted immediately upon execution to the President of the Council as condition of the dispatch of employees to the Work Site. The Contractor shall monitor and enforce compliance with this CWA by all subcontractors. The Council shall monitor compliance with this CWA of its member organizations.

8.2 The Project Contractor agrees that neither it nor any of its contractors or subcontractors will subcontract any Covered Work to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor working on the Project shall, as a condition to working on said Project, become signatory to and perform all work under the terms of this Agreement.

8.3 Audit rights contained in any collective bargaining agreement with the affected signatory labor organization that predominantly covers work associated with this CWA, shall be limited to the audit of the Contractor's or subcontractor's payroll records for non-exempt personnel assigned to this Project only.

ARTICLE 9 MANAGEMENT RIGHTS

9.1 The Contractor and the Contractor's subcontractors shall have full authority to manage their business operations, including but not limited to the authority to determine the number of workers and craft supervisory personnel, and their qualifications. The Contractor and its subcontractors also shall have full authority to direct the work force, hire, promote, transfer, lay-off, discipline or discharge for just cause, select foremen and general foremen, assign and schedule work, including overtime work and determine when it will be worked and the number and identity of employees to be engaged in such work. Project work rules are subject to the review by the Project Administrative Committee (hereinafter, the "PAC") as described in Article 12.

9.2 There shall be no limitation or restriction on the Owner's, Contractor's or subcontractor's choice of materials or design; or, regardless of source or location, on the full use, installation and utilization of equipment, machinery, package units, pre-casts, prefabricated, pre-finished, or pre-assembled materials, tools, or other labor-saving device. However, when subcontracting for prefabrication of materials for field installation on the Project, such prefabrication shall be subcontracted to fabricators who pay their employees engaged in such fabrication not less than the appropriate Alaska prevailing wage for comparable fabrication, as set by Alaska Statute Title 36, Public Contracts.

9.3 The on-site installation or application of such items shall be performed by employees represented by members of the Council, or labor organizations signatory to this CWA, if such employees traditionally perform such work; provided that other personnel having special talents or qualifications may participate in the installation, check-off or testing of specialized or unusual equipment.

If there is any disagreement between the Contractor, a subcontractor and the Council or a labor organization signatory to this CWA concerning the manner of installation, check-off or testing of such equipment, the work shall proceed as directed by the Contractor, or subcontractor and the labor organization shall have the right to dispute the matter and have it resolved in accordance with Article 21 of this CWA.

9.4 The rights of management enumerated in this Article are limited only by the Contract and the terms of this CWA.

9.5 If all crafts involved agree prior to commencing the work, the Contractor or Sub-Contractor may develop a composite crew for the performance of a particular task. So long as the crew consists of the required crafts in such proportions as the respective work being performed, the traditional craft jurisdictional boundaries will be waived by all Signatory Labor Organizations.

ARTICLE 10 REPRESENTATION OF EMPLOYEES

10.1 The Owner, Contractor and all subcontractors agree to recognize the Council and the labor organizations signatory to this CWA as the sole and exclusive bargaining representatives of all employees performing Covered Work on the Project with respect to wages or rates of pay, benefits, hours of work and other terms and conditions of employment.

10.2 Each labor organization signatory to this CWA shall be entitled to designate one (1) official representative and one (1) official alternate (hereinafter, "Employee Representatives") as primary points of contact. It is understood that, depending upon the availability of these individuals, or the unique nature of a problem or dispute, other Employee Representatives may be designated on a short-term basis. Written notice of the designation of Employee Representatives (Attachment 3) shall be provided to the appropriate Contractor or subcontractor. Employee Representatives shall fully comply with the visitor, safety and security rules established for the Project.

10.3 The Contractor and/or subcontractors shall provide the Council or the appropriate labor organization with written notification of its chain of command for resolving issues or workplace disputes.

10.4 Employee Representatives shall be given fair and reasonable access to the Work Site. Employees performing Covered Work shall be permitted to consult and confer privately with their Employee Representatives. Employee Representatives shall work cooperatively with the Contractor's or subcontractor's representatives to prevent the escalation of Work Site problems and to resolve them at the lowest possible level.

10.5 Each labor organization signatory to this CWA also shall have the right to designate at least one (1) working journeyman as Steward. Written notice of the designation shall be provided to the appropriate Contractor or subcontractor. The Steward shall be recognized as the labor organization's Work Site employee representative. One (1) Steward also may be designated for each shift, should multiple shifts be utilized. Stewards shall be permitted on the Work Site at all times. A Steward's activities may not unreasonably interfere with the Steward's work for the Contractor or its subcontractors, or the work of other employees.

10.6 All Stewards shall be qualified workers assigned to a crew. Under no circumstances shall there be a non-working Steward on the Project.

10.7 The Steward shall be paid at the applicable prevailing wage rate for the job classification in which he or she is employed. The Steward shall be given all rights specified in the specific labor organization's CBA that covers construction work.

10.8 The Contractor shall notify the appropriate labor organization in reasonable advance of disciplining or discharging a Steward for just cause and as soon as possible after it becomes known to the Contractor that a Steward has voluntarily quit. In the case of a bona fide reduction in force, forty-eight (48) hours prior written notice shall be given the appropriate labor organization prior to the lay-off of a Steward. The Steward shall be laid off last in his classification and shall not be subjected to discrimination or discharge on account of providing employee representation.

10.9 No worker shall be required to become a member of a Union, or pay any dues or dues equivalent, to be eligible for employment under this SCWA. If elected by the employee, the Employer and subcontractors will deduct working membership dues, assessments and non-membership fees in the amount designated by the applicable labor organization, provided the employee has executed and provided the Contractor or subcontractor with a written assignment authorizing the deduction. All workers covered by this CWA who are Union members and working for a Contractor signatory to a collective bargaining agreement other than this CWA, shall remain members in said Union during the project. It is understood and agreed that the Contractor or subcontractor assumes no liability in connection with dues or fee collection, except for ordinary diligence and care in transmittal of the monies to the appropriate labor organization. The Contractor or subcontractor will remit to the appropriate labor organization, the dues deducted on or before the fifteenth (15th) day of each month following the month of accrual.

ARTICLE 11 PRE-JOB COOPERATION

11.1 The Contractor, all known subcontractors of all tiers, and the Council shall participate in a Pre-Job conference to be held within thirty (30) days after the award date, but not later than two (2) weeks prior to the commencement of Covered Work, and on an as needed basis for projects with multiple phases or start dates. Once the remaining subcontractors are selected, they shall participate in a Pre-Job conference with the Contractor and affected signatory labor organization(s) prior to starting their work.

11.2 The Pre-Job conference shall be arranged by the CWA Administrator pursuant to Article 12. Information about the scope of work and specific and detailed craft assignments will be presented by the Contractor or subcontractor so that all Parties can review proposed work assignments prior to the start of construction. The Contractor and subcontractors shall present all information available regarding the start date and duration of the Project, estimated peak employment periods, and any other information necessary to help ensure a successful, dispute-free Project.

11.3 Each Subcontractor shall submit a Pre-Job package addressing the matters described in Sections 11.2 and 11.4, to the Contractor for distribution to the Council in reasonable advance of the Pre-Job conference. The Pre-Job package shall include the signed Letter of Assent (Attachment 1), and if applicable, a Core Employee list (Attachment 2) together with supporting documentation pursuant to Article 14.6.

11.4 If the Contractor or any subcontractors at any tier fails to attend the Pre-Job conference prior to the commencement of Covered Work, or to submit the required materials, it shall be considered a violation of this CWA. The Council or signatory labor organization shall immediately notify the Contractor or Owner, as appropriate, of the violation. The Owner shall require the Contractor or subcontractor to take corrective action regarding this matter immediately. No Party shall commence Covered Work until the obligations set forth in this Article are satisfied. If the Contractor is the offending Party, the matter will be resolved by the PAC pursuant to Article 12, upon submission of a written complaint (Attachment 4) to the CWA Administrator.

ARTICLE 12 PROJECT ADMINISTRATIVE COMMITTEE (PAC)

12.1 The parties to this CWA recognize the necessity of cooperation, the prevention and elimination of disputes, misunderstandings, or unfair practices on the part of any party that may arise after award of the Contract or subcontract, or during construction of the Project.

12.2 A Project Administrative Committee (PAC) shall be established consisting of regular members, as follows:

- a. One (1) Contractor representative who shall be appointed by the Contractor and who shall have the authority to speak for and make decisions on the Contractor's behalf

Contractor Representative shall be: _____

- b. The President of the Council shall preside as the PAC Representative and have the authority to speak for and make decisions on behalf of the Council after consultation with the appropriate signatory labor organization(s) as necessary.

Council Representative shall be: _____

- c. One (1) CWA Administrator representing the Owner who shall be appointed by the Owner and who shall have the authority to make decisions on the Owner's behalf. The Owner through the CWA Administrator, or Designee, shall initiate and participate in all proceedings of the PAC. The CWA Administrator or Designee shall chair all meetings of the PAC.

CWA Administrator shall be: _____

12.3 The PAC shall monitor the progress of the project and be empowered to address Project wide issues and disputes such as, Project policies and work rules; Project safety; compliance with hiring requirements, apprenticeship utilization; job progress; job interruptions; core employee hire and other significant issues as may affect the Project. Furthermore, the PAC shall track the implementation of apprenticeship, military, and other hiring preferences and report progress to the Owner. The PAC's dispute resolution process does not supersede, nor is it a substitute for the grievance process. Complaints involving alleged violations of this CWA, or any signatory labor organization's CBA that predominantly covers their work associated with this CWA shall be resolved in accordance with the grievance process set forth in Article 20.

12.4 A Party or Parties may submit a dispute to the PAC for resolution, by providing a written copy of the Party's complaint (Attachment 4) to the CWA Administrator and all affected Parties. The CWA Administrator shall call a meeting to address any such complaint promptly upon receipt of it. One (1) representative of the Contractor, one (1) representative of each subcontractor(s) involved in the complaint, one (1) representative of the Council, and one (1) representative of each labor organization(s) involved in the complaint will be permitted to attend and participate in the complaint's resolution. Affected parties will be given an opportunity to present facts and witness testimony relevant to the complaint in accordance with general standards of due process. Proceedings of the PAC shall be informal and strict application of the rules of evidence shall not be required. If resolution of the complaint by mutual agreement of the Parties is not possible, the PAC shall decide the matter by open ballot, majority vote.

12.5 No decision or resolution reached by the PAC shall supersede, alter, modify, amend, add to or subtract from this CWA, or any signatory labor organization's CBAs except as the latter is modified or superseded by this CWA. The PAC's resolution of a complaint shall be reduced to writing and shall be signed by all the Parties. Decisions of the PAC shall be final and shall not be subject to appeal.

12.6 The PAC shall meet as needed to review the overall operation of the CWA on the Project. In the case of emergencies, the PAC shall be convened by the CWA Administrator, within forty-eight (48) hours of a written request submitted by any Party. All Parties acknowledge the importance of attendance and active support of the PAC and shall participate in meetings of the PAC as one of their responsibilities on the Project.

12.7 To promote day to day Work Site continuity, cooperation and information exchange, the Contractor and Council shall have Labor Management meetings monthly. The Contractor may also require the participation of any/all subcontractors who are working, or soon to be working on the Project. At these monthly Labor Management meetings, the topics of discussion will include job status, schedule updates, future work assignments, letter of assents, worker needs, and any other issue or concern that will help achieve a harmonious work site.

ARTICLE 13 CONTINUITY OF OPERATIONS

13.1 During the term of this CWA there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity for any reason by the Council, its signatory labor organizations, or by any employee employed on the Project.

13.2 There shall be no lockout of employees by the Contractor or subcontractors. In the event of action in violation of this Article, the Contractor may suspend all or any affected portion of the Work.

13.3 Any employee who participates in or encourages behavior that interferes with the performance of Covered Work may be subject to disciplinary action, up to and including discharge.

ARTICLE 14 HIRING PROCEDURES

14.1 The Contractor and subcontractors agree to comply with and exclusively use the appropriate signatory labor organization's referral system. All referral systems will be operated by the signatory labor organizations in a nondiscriminatory manner, in full compliance with federal, state, and local laws. Registration on out of work lists, or job referrals shall not be affected positively or negatively by membership or non-membership

in a labor organization and shall be open to all those who meet the respective crafts requirements.

14.2 By Contractor or subcontractor request, the appropriate signatory labor organization shall, to the greatest extent possible, prioritize the dispatch of applicants who are residents of the communities surrounding Project Work Sites. At the request of the Contractor or subcontractor, the appropriate signatory labor organization also shall, to the greatest extent possible, prioritize the dispatch of applicants falling within the focus categories set forth in the Preamble.

14.3 The Contractor may reject any applicant referred by a signatory labor organization for any lawful, nondiscriminatory reason, in accordance with the applicable labor organization's hiring hall rules and regulations. A written explanation shall be provided to the affected labor organization within forty-eight (48) hours of the rejection.

14.4 In the event any signatory labor organizations are unable to fill a request for referrals within forty-eight (48) hours after the request is made by the Contractor or a subcontractor (except for Saturdays, Sundays, and holidays), the Contractor or subcontractor may employ applicants from any other available source. The Contractor or subcontractor shall provide the appropriate labor organization with the name, address and phone number, or other viable contact information, in writing, for every applicant hired from other sources, and shall refer such applicants to the appropriate labor organization for dispatch to the Project before such applicant begins working on the Project. All successful applicants, whether referred by a signatory labor organization, or by another source, shall satisfy their financial obligations in accordance with the signatory labor organization hiring hall rules.

14.5 To ensure that the Contractor and all subcontractors have an opportunity to employ ("Core") employees on the Project, the Parties agree that in those situations where the successful Contractor or subcontractor is not a party to a current collective bargaining agreement with the affected signatory labor organization, the Contractor, or subcontractor, may request by name Core employees in accordance with the affected signatory labor organization's hiring hall rules. At the time of signing the letter of assent a list of all Core employees and classifications must be submitted (Attachment 2). All subsequent referrals will be made by the labor organization's hiring hall.

14.6 In order to be eligible to request a Core employee by name, the Contractor first must, demonstrate that the person possesses the following qualifications. Applicants, who cannot satisfy the following qualifications, will not be eligible for dispatch as Core employees:

- a. Holds all licenses required by state or federal law for the Covered Work to be performed.
- b. Has worked a total of at least one thousand (1,000) hours in the construction craft performing the Covered Work to be performed, during the previous year.

- c. Has the ability to safely perform the essential functions of the job.

14.7 Complaints that the Core employee provisions of this Article have been violated shall be submitted in writing to the CWA Administrator and resolved by the PAC on an expedited basis. Any Contractor or subcontractors that attempt to or that are found to have circumvented the Core employee hiring provisions of this Article by misclassifying any of its employees as supervisors or foremen, or in any other way, shall, by Order of the PAC, forfeit their right to employ Core employees for the remaining duration of the Project.

ARTICLE 15 APPRENTICESHIP AND TRAINING

15.1 The Parties recognize the need for meaningful, continuing support of bona fide apprenticeship programs. Such programs enable community members and District graduates to enter the labor market qualified to earn a family wage on a construction job. They ensure that a diverse, well-trained workforce essential to the economic and social vitality of Alaska and in particular, the communities surrounding the Work Site, is cultivated on an ongoing basis. The signatory labor organizations agree to support and to enhance existing apprenticeship programs to provide training and job opportunities to District graduates, young people, and unskilled adults. The Contractors will employ apprentices to perform work customarily performed by the craft in which they are registered, within the capability of the apprentice.

15.2 Apprentices shall be utilized in accordance with the signatory labor organization's CBAs that predominantly covers the work associated with this CWA. Apprentices shall be indentured in bona fide training programs approved by the United States Department of Labor, Office of Apprenticeship Training, Employer Labor Services (formerly the Bureau of Apprenticeship & Training).

15.3 Consistent with Board Policy 3311.1.2 (Use of Apprentices), the Contractor shall ensure that no less than fifteen (15%) percent of the total Contract labor hours worked on the Project are worked by registered Apprentices.

15.4 The Contractor and each subcontractor shall estimate the total contract labor hours to be worked on the construction contract awarded to it and shall establish the anticipated apprenticeship participation by craft and hours. The Contractor shall submit a monthly report for itself and all subcontractors to the CWA Administrator identifying the number of apprentices and journey workers used by craft and trade at each tier and level of work. The CWA Administrator shall determine whether the Contractor or subcontractor is in compliance with the provisions of this Article and collaborate with Sr. Director of Purchasing-Warehouse on management of the District's Apprenticeship Utilization Program.

15.5 Funding for Apprenticeship and training shall be through hourly contributions to each respective Union's Joint Apprenticeship Training Committee (JATC) programs. Those contributions shall be in accordance with the appropriate Signatory Labor Organization's Schedule "A".

ARTICLE 16

DISTRICT GRADUATES AND PREFERRED ENTRY APPRENTICESHIP

16.1 The Parties are committed to expanding employment and training opportunities for District graduates and providing additional work opportunities for District graduates and students in career and technical education to the full extent permitted by law.

16.2 The Parties agree to construct and expand pathways to livable wage jobs and careers in the construction industry for community residents and District graduates through collaborative workforce development systems and bona fide apprenticeship programs maintained by the Council and its member organizations.

16.3 To the extent permitted by law and current Anchorage School Board policy regarding employment of sex offenders, preferred Entry programs will be utilized in an attempt to identify qualified individuals such as: District graduates, youth, unskilled adults, military veterans, members of the National Guard or reservists, people of color, women, socially/economically or otherwise disadvantaged members of the community, or individuals facing reentry after a period of State of Alaska incarceration, for preferred entrance into the regular apprenticeship programs maintained that have been or will be created by the labor organizations signatory to this CWA.

16.4 Identification, selection and mentorship of qualified applicants to be accepted into apprenticeship programs will be the sole responsibility of the Joint Apprenticeship Training Committee (JATC) of each bona fide Apprenticeship and Training program.

ARTICLE 17

MILITARY VETERANS, MEMBERS OF THE NATIONAL GUARD, AND RESERVISTS

17.1 The Contractor, subcontractors, the Council, and its member organizations have committed to facilitating entry into the building and construction trades of veterans, members of the National Guard and reservists who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program and other appropriate veteran's programs. In furtherance of these efforts, the primary program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, and other needs identified by the Parties shall be VIPER.

17.2 The Contractor, subcontractors, and the labor organizations signatory to this CWA agree to coordinate with the Center and other appropriate veteran referral sources, to create and maintain an integrated database of veterans interested in working on the Project.

17.3 The labor organizations signatory to this CWA shall to the extent permitted by law, make reasonable, appropriate adjustments to their hiring hall rules and regulations to give credit to military veterans, members of the National Guard and reservists, for bona fide, provable past work experience.

ARTICLE 18 SOCIO-ECONOMICALLY DISADVANTAGED COMMUNITY MEMBERS

18.1 To the extent permitted by law and current Anchorage School Board policy regarding employment of sex offenders, employment opportunities shall be provided to eligible at-risk individuals, such as youth, unskilled adults, people of color, women, and those who experience a barrier to gaining employment due to their personal backgrounds. Those may include, socio-economically disadvantaged members of the community and individuals facing reentry into the community after leaving a State of Alaska correctional facility or incarceration.

ARTICLE 19 DRUG AND ALCOHOL-FREE WORKPLACE

19.1 The Contractor shall implement a fair and equitably administrated Drug Free Workplace Policy and Program (hereinafter, the "Policy") for the duration of this CWA. The Policy will be administered in accordance with the provisions of its ALCOHOL AND DRUG POLICY which shall be included as an Exhibit 1 to this CWA. All positive or inconclusive drug or failed alcohol results must be verified by an independent third-party agency approved in advance by the CWA Administrator. The CWA Administrator has the right and authority to conduct an audit of the administration of the drug and alcohol testing procedures being implemented by the Contractor, upon request of any Party to this CWA.

19.2 Consistent with the Owner's goals as forth in this CWA, persons with a history of alcohol or drug abuse shall not be denied employment on the Project so long as they can demonstrate their present ability to satisfy the requirements of the Drug Free Workplace Policy and Program applicable to the Project.

ARTICLE 20 STANDARDIZED GRIEVANCE PROCEDURE

20.1 This CWA is intended to provide close cooperation between labor and management, the Contractor, subcontractors, and signatory labor organizations with respect to the day-to-day performance of Covered Work. Alleged violations of this CWA or any signatory labor organizations CBA that predominantly covers work associated with this CWA, governing the performance of Covered Work by employees represented by a signatory labor organization, shall be resolved as follows.

- a. **Step 1.** When any employee subject to the provisions of this CWA feels he or she has been adversely affected by a violation of this CWA or any signatory labor organizations CBA that predominantly covers work associated with this CWA, they shall, through their local Business Representative or job steward, give notice to the appropriate Contractor or subcontractor representative of the grievance. Notice shall be given within seven (7) calendar days after the employee become or should have become aware of the violation. The labor organization's representative or job steward and the Contractor's representative shall meet and endeavor to adjust the matter within three (3) calendar days after timely notice has been given. The representative of the Contractor shall respond to the Business Representative in writing at the conclusion of the meeting but not later than two (2) calendar days thereafter. If the Party's representatives fail to resolve the matter within the prescribed period, the grieving party may, within two (2) calendar days thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth all relevant information, including a short description of the grievance the date on which the grievance occurred, and the provision(s) of the CWA alleged to have been violated.
- b. Should a Party have a dispute with another Party they shall meet promptly to resolve it. If a settlement is not reached within three (3) calendar days of the meeting, the dispute may be reduced to writing and submitted at Step 2, in the same manner as outlined for the adjustment of an employee grievance.
- c. **Step 2.** The Business Representative of the signatory labor organization or designee and the Contractor or subcontractor's representative, or designees shall meet within seven (7) calendar days after referral of a dispute to Step 2, to arrive at a satisfactory settlement. If the Parties' representatives fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.
- d. **Step 3.** If the grievance has been submitted but not adjusted at Step 2, either Party may within seven (7) calendar days thereafter, request in writing, that the grievance be submitted to a mutually acceptable Arbitrator. Alaskan arbitrators shall be utilized to the greatest extent possible. If an Arbitrator cannot be selected by mutual agreement, the selection shall be made by the PAC. The decision of the Arbitrator shall be final and binding on all Parties. The fee and expenses of Arbitration shall be borne equally by the Contractor or subcontractor and the labor organizations involved in the grievance regardless of the outcome.

- e. Failure of a Party to adhere to the time limits established herein shall be deemed a default and shall resolve the grievance in favor of the non-defaulting party. The time limits established herein may be extended only by written consent of the Parties involved. The Arbitrator shall have the authority to make decisions only on the issues presented, and shall not have authority to change, amend, add to or detract from any of the provisions of this CWA, or any signatory labor organizations CBA that predominantly covers work associated with this CWA.

ARTICLE 21

CRAFT JURISDICTION & JURISDICTIONAL DISPUTES

21.1 The assignment of work is the sole responsibility of the Contractor performing the work involved; such work assignments will be under the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

21.2 If there is a dispute over a work assignment on the Project, between or among signatory labor organizations and Contractors of any tier, representatives of the signatory labor organizations claiming the work shall first meet with the Council President, or designee, who will attempt to mediate a resolution on an expedited basis. If a resolution to the dispute cannot be reached, the signatory labor organizations claiming the work then shall notify the CWA Administrator and the dispute shall be settled and adjusted according to the Plan. Decisions rendered shall be final, binding, and conclusive on the Contractors and labor organizations that are parties to this Agreement.

21.3 All jurisdictional disputes shall be resolved without strike, work stoppage, or slow-down of any nature and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section may be subject to discipline up to and including discharge for just cause.

ARTICLE 22

WORK RULES

22.1 The Owner or the Contractor(s) may establish reasonable Project Rules, so long as such Rules are not inconsistent with this CWA. Project Rules will be explained at the pre-job conference and posted at the Project Site by the Contractor or appropriate subcontractor. Failure by any employee to observe these rules and regulations may be grounds for discipline, up to and including discharge for just cause.

22.2 Security procedures for control of tools, equipment and materials are solely the responsibility of the Contractor and its subcontractors. Employees having any company property or property of another employee in their possession without authorization may be subject to discipline, up to and including discharge for just cause. The Contractor or

subcontractor will be responsible for the establishment of reasonable job security measures for the protection of personal company and client property on the Work Site.

ARTICLE 23 SAFETY, HEALTH AND SANITATION

23.1 Employees shall be provided with a safe, drug and alcohol-free environment in which to work. All employees performing Covered Work on the Project shall be covered by a properly classified Alaska Workers' Compensation Policy. All required safety equipment shall be provided by the Contractor or subcontractors at no cost to employees.

23.2 The Contractor, subcontractors and employees performing Covered Work on the Project shall comply with all applicable provisions of District, local, state and federal laws, rules and regulations, relating to job safety and safe work practices (hereinafter, "Safety Rules"). Safety meetings will be scheduled and conducted weekly by the Contractor or subcontractor as appropriate, to discuss safety on the Project and to ensure adequate awareness and understanding of the manner of implementation and the application of all Safety Rules.

23.3 All employees shall be required to use appropriate, personal, protective equipment as is or may be prescribed by state or federal safety and health standards or by the Contractor. Adequate training shall be provided to all Project employees to ensure proper utilization of such equipment. Failure of employees to use such equipment properly may be grounds for disciplinary action, up to and including dismissal.

23.4 No employee shall be required to work under conditions or circumstances which place the employee in imminent danger of physical harm or injury, except that the employee may not make any such claim or refuse to perform Covered Work as a pretext for refusing to carry out a work assignment.

23.5 The Contractor or subcontractor may shut down a job, or a portion thereof, if in the Contractor's or subcontractor's judgment, an emergency arises which could endanger the life and safety of an employee. In such cases, employees will be compensated only for the actual time worked or for standby time if standby is required by the Contractor or subcontractor.

23.6 The Contractor and its subcontractors, as appropriate, shall provide a convenient and sanitary supply of drinking water and sanitary drinking cups, adequate sanitary toilet and clean up facilities for the employees, and dry racks sufficient to accommodate employees during rest and meal breaks, and for storage of employee's personal clothing and equipment.

23.7 Where an unsafe condition is alleged to exist, the affected employee shall first notify his or her immediate supervisor who shall take any necessary corrective action. If the employee's immediate supervisor is not available, the employee may satisfy his or her duty to report unsafe conditions promptly, by notifying any available Shop Steward or

management representative of the Contractor or subcontractor. If the parties fail to resolve any difference or disagreement over the existence of an unsafe condition or the appropriate corrective measures to be taken, the issue shall be referred immediately, for final and binding, resolution to the CWA Administrator and resolved by the PAC pursuant to Article 12.

ARTICLE 24 PROTECTION OF PERSON AND PROPERTY

24.1 Employees shall use diligent care to perform their work in a safe manner and to protect themselves, the environment, and the property of the Employer. Failure to do so may, depending upon the severity of the offense, result in discipline up to and including dismissal. The Employer shall establish, post, and ensure employees are aware of and understand, reasonable visitor, security, and safety rules necessary to achieve this objective.

ARTICLE 25 WAGE SCALES AND FRINGE BENEFITS

25.1 All employees covered by this Agreement shall be classified in accordance with Alaska Statute Title 36, Public Contracts. This shall be applicable to all Contractors and subcontractors.

25.2 Wages and benefits for referenced project shall remain at the levels specified in the specific contract documents for twenty-four (24) months from the award date. After twenty-four (24) months, the wage and benefit will increase to the current prevailed rate as published by the Alaska State Statute Title 36.

25.3 The Contractor and all Sub-Contractors shall be required to pay into an appropriate joint labor/management employee benefit trust(s) ("Trust Fund") unless alternative benefit plans are approved by each affected Signatory Labor Organization as outlined Section 25.4 below. Contractor and subcontractors shall be required to complete trust documents and submit them to the Trust Fund for each employee and to pay into the Trust Fund as required by that Trust Fund's schedule.

25.4 **Alternative Benefits.** The Parties recognize the Owner's commitment to provide opportunities on the Project for all Contractors and subcontractors, including those which may not have previously had a relationship with the labor organizations signatory to this CWA. Each labor organization signatory to this CWA agrees to meet and confer with the Contractor or subcontractor to discuss alternative benefits for Pension and/or Health and Welfare to meet the needs of their core employees as defined in Article 15 above. To be eligible, Contractors or subcontractor's must have a qualifying Pension and/or Health and Welfare plan currently covering their core employees as outlined below. If such

Contractors or subcontractors do not have a qualifying company Pension and/or Health and Welfare plan, they shall be required to contribute to the appropriate Trust Fund for their core employees. All Contractors and subcontractors are required to pay the prevailed amount into the Training Trust Funds for the appropriate Signatory Labor Organization.

Qualifying Pension and/or Health and Welfare plan shall be one that satisfies the following requirements:

- a. The Contractor's or subcontractor's company Pension and/or Health and Welfare plan must have been in existence for a period of at least one (1) year prior to the Contractor's or subcontractor's bid or proposal submission for work on the Project; and
- b. The employees for whom continued coverage under the Contractor's or subcontractor's plan will be maintained must be qualified core employees as defined above and have been participants in such plans for the six (6) month period prior to their employment on the Project.

If the above requirements are met, the Contractor or subcontractor may request to meet and confer by submitting a written request to the Administrator for each affected signatory labor organization using (Attachment 5).

25.5 If any Contractor or subcontractor does not pay into the appropriate Trust Fund, the affected labor organization's trust administrator shall provide written notice to the Contractor.

- a. The delinquent subcontractor, and the Contractor by mutual agreement, may identify other agreeable solutions that will assure timely payment to the Trust Fund. If the delinquent amounts are undisputed in whole or in part between the Trust Fund and the delinquent subcontractor, the Contractor shall issue a joint check to the Trust Fund and the subcontractor, in the amount of the undisputed delinquency.

25.6 If the Contractor is the delinquent Party, written notice of the alleged delinquency shall be provided by the affected labor organization to the CWA Administrator, and the delinquency shall be resolved by the PAC pursuant to Article 12.

25.7 Copies of applicable Trust Agreements will be made available upon request of the Contractor or subcontractor.

ARTICLE 26 WORK HOURS AND PAY

26.1 Workweek and Workday.

- a. **Regular Workweek and Workday.** The regular workweek shall be five (5) consecutive days falling within Monday through Saturday. Where a single shift is worked, the regular workday shall be eight (8) consecutive hours between 6:00 AM and 6:00 PM; exclusive of a meal period of not less than one-half (1/2) hour. Nothing herein shall preclude the Contractor or subcontractor from scheduling any workday in excess of eight (8) hours or a workweek in excess of forty (40) hours. The Contractor or subcontractor shall determine and establish the work starting times at any time between 6:00 AM and 8:00 AM. All work performed before the regular starting time or after eight (8) consecutive hours shall be paid at the regular overtime rate, except that under conditions beyond the control of the parties to this Agreement (such as concrete paving, concrete pouring, asphalt paving, and road oiling work), or on work requiring special crews, or when the job or weather conditions warrant, the work starting time shall be mutually arranged to fit such conditions without penalty or premium payment. Other starting times, including staggering starting times, may be mutually agreed upon by the Parties without premium pay.
- b. **Four-Ten Hour Workweek (4-10's).** With notification to the employees prior to the end of their workweek, the Contractor or subcontractor may schedule a workweek of four (4) consecutive ten (10) hour workdays between Monday and Saturday within the standard starting times as stated in Section 26.1 at the straight time rate of pay. Any work in excess of ten (10) hours on scheduled workdays shall be paid at the overtime rate of pay, and overtime shall be paid for any hours in excess of forty (40) in any workweek.
- c. **Assembly Point.** The time of each Employee shall start in the morning at the designated Assembly Point, which shall be agreed upon at the pre-job conference. The Contractor or subcontractor shall make suitable and prompt transportation available from Assembly point to the job site and back. The time of the Employees shall end at quitting time on the job sites. It is intended that the lapse of time used to transport the Employees from normal quitting time at the job site to Assembly Point shall not exceed the lapse of time from starting time at Assembly Point in the morning to the Job site. In the event that the cumulative round-trip travel exceeds one (1) hour, then the employee's time exceeding the one (1) hour will be considered as time worked and compensation will be computed at the applicable rate. The Contractor or subcontractor will utilize Teamsters for all hours worked hauling employees to and from the agreed upon assembly point.
- 26.2 **Meal Period.** The Contractor or subcontractor will schedule a meal period of not less than one-half (1/2) hour, or more than one (1) hour's duration at approximately the mid-point of the scheduled shift regardless of such shift duration (8, 10, or 12 hours). The Contractor or subcontractor shall make an earnest effort not to work employees six (6) hours without a meal period. If the Contractor or subcontractor finds it is necessary to work employees beyond six (6) hours without a meal period, the employees shall be allowed a later meal period, and it shall be considered time worked and paid for at the proper overtime rate.

26.3 Overtime.

- a. All work performed in excess of eight (8) consecutive hours (excess of ten (10) hours on a four-ten (4-10) schedule) in any one (1) day or forty (40) hours in any one (1) workweek shall be paid at one and one-half (1-1/2) times the straight time rate of pay. Employees shall be paid in accordance with the appropriate signatory labor organizations CBA that predominantly covers work associated with this CWA for all work performed on Saturdays and Sundays. An employee who was absent on their own accord, but work was made available during a regular straight time day, may be compensated at the straight time rate for hours worked on Saturday.
- b. When a shift is started at a basic rate or at the appropriate overtime rate applicable on that day, it shall be completed at that rate. There will be no restrictions upon the Employer's scheduling of overtime or the non-discriminatory designation of employees that shall be worked. There will be no pyramiding of overtime.

26.4 Holidays.

- a. All Holidays, except for Labor Day, may be worked. No work may be performed or scheduled on Labor Day unless an emergency exists.
- b. If Saturday is not a normally scheduled workday, the holiday shall be observed on the preceding Friday. If Sunday is not a normally scheduled workday, the holiday shall be observed on the following Monday.
- c. Employees shall be paid in accordance with the appropriate signatory labor organizations CBA that predominantly covers work associated with this CWA for all work performed on recognized holidays.
- d. Recognized Holidays shall be:

New Year's Day (January 1st)
Presidents' Day (Third Monday of February)
Memorial Day (Last Monday in May)
Independence Day (July 4th)
Labor Day (First Monday of September)
Veteran's Day (November 11th)
Thanksgiving Day
Christmas Day (December 25th)

26.5 Shift Work.

- a. Shift work may be performed at the option of the Contractor or subcontractor. The Contractor or subcontractor shall have the sole right to establish the starting time and duration of a shift, to designate the craft or crafts performing work on a shift

basis on the Project or any portion thereof, and to determine the number of employees required. Any time worked more than the regular shift shall be paid for at the normal overtime rate. The meal period provisions of Section 26.2 of this Article shall apply to both shifts.

- b. On two- or three-shift operations, the work starting time for the first shift will not be established earlier than 5:00 AM, unless an earlier starting time is mutually agreed upon. If an earlier starting time is established without such mutual consent, overtime for those hours earlier than 5:00 AM will be paid. When an employee is moved from one shift to another, they shall be allowed a minimum of eight (8) consecutive hours off duty before they are required to begin work on the shift. An employee not having an eight (8) hour break between shifts shall be paid the overtime rate until such time as they receive an eight (8) hour break.
- c. When changing shifts, the employee must be permitted to remain on that shift for at least fourteen (14) calendar days, unless this requirement is waived in writing by the employee's Employee Representative.
- d. Employees shall be at their place of work at the starting time and shall remain at their place of work performing their assigned functions under the supervision of the Contractor or subcontractor until quitting time. The parties reaffirm their policy of a fair day's work for a fair day's wage.
- e. Scheduling and premium pay for two- or three-shift operations shall be in accordance with the appropriate Signatory Labor Organization's Schedule "A".
- f. When two (2) or three (3) shifts are regularly established and the first or second shift cannot be worked due to conditions caused by weather, either shift may be worked in accordance with the applicable Signatory Labor Organization's Schedule "A".

26.6 Reporting Pay.

- a. If an employee reports to work for a regular or assigned shift and, weather permitting, is not put to work, he or she shall be paid two (2) hours reporting time and shall remain at the job site for two (2) hours if required by the Contractor or subcontractor.
- b. An employee who starts to work shall be paid for not less than two (2) hours, and if the employee works beyond two (2) hours, the employee shall be paid for actual time worked. It shall be the Contractor or subcontractor's prerogative whether or not to stop work.
- c. No employee covered by this Agreement shall be called to work outside of their regular shift for less than two (2) hours paid for such work at the applicable rate.

- d. Any employee who leaves the job or work location of his or her own volition, quits, or is discharged for cause, shall be paid only for the time worked.

26.7 **Payday.**

- a. Wages will be paid weekly by check or direct deposit on a designated day during working hours and, in no case, shall more than five (5) days be held back in any one (1) payroll week. Each payday the Employee shall be given a check or stub and a statement showing hours, deductions, and hourly rates of pay, with the Contractor or subcontractor name and address clearly stated.
- b. When an employee is separated from employment, wages become due within three (3) days after separation (excluding weekends and holidays). Where complete payroll information is not available and the check issued is less than the total amount due, a check for the balance shall be sent to the office of the appropriate signatory labor organization. Should the Contractor or subcontractor fail to comply with this provision, in whole or part, the employee will be entitled to eight (8) hours pay at the straight time rate of pay for each day full termination pay is delayed (excluding Saturdays, Sundays and holidays). Checks not picked up by the employee shall be delivered to the appropriate signatory labor organization.

26.8 Travel and Subsistence. There shall be no travel, daily travel, subsistence, or zone pay required under the provisions of this Agreement, but nothing in this Agreement prohibits the Contractor or subcontractor from providing any of the aforementioned items necessary to employ workers and payment of travel and subsistence is encouraged.

26.9 Employee Access. Employee access to the Work Site by private automobile may be limited to certain roads and/or parking areas. Parking at or near the Work Site will be provided to employees at no cost. If such parking cannot be provided, transportation between the parking area and the Work Site shall be provided by the Contractor or subcontractor, and employees will be given fifteen (15) minutes of pay each way, or compensation for actual transportation time, whichever is greater. Parking fees shall be reimbursed if employees are required to park in a private lot.

26.10 **Foremen and General Foremen.**

- a. The selection of craft foremen and general foremen shall be the exclusive responsibility of the Contractor or subcontractor. Foremen and general foremen shall take directions from authorized Representatives of the Contractor or subcontractor.
- b. Craft foremen may be required to perform covered work of the trade.
- c. General foremen may perform incidental work of the trade.
- d. Craft and general foremen shall be paid at the applicable foreman rate.

- e. The number of craft foremen and general foremen shall be in accordance with the applicable signatory labor organizations CBA that predominantly covers work associated with this CWA.
- f. All foremen shall have the authority and responsibility to terminate for just cause any employee working under their supervision who fails to perform satisfactorily, competently, and diligently his or her assigned duties.

ARTICLE 27 COMPLETE AGREEMENT

27.1 This CWA represents the complete agreement of the Parties. Neither the Contractor nor any subcontractor will be required to sign any other agreement with the Council, or its member labor organizations, as a condition of performing work on the Project. If this CWA is silent on an issue the applicable signatory labor organization's CBA that predominantly covers work associated with this CWA will be used to determine the outcome. Where there is a conflict, the terms of this CWA shall supersede the terms of all national, regional, or signatory labor organizations CBAs that predominantly covers work associated with this CWA, except for all work performed under the NTD Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors; and all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians; with the exception of Articles 13, 20, and 21 of this Project Agreement, which shall apply to such work. Nothing in this CWA requires employees to join a union or pay dues or fees to a union as a condition of working on the covered project. This CWA is not, however, intended to supersede independent requirements in applicable local union agreements as to contractors that are otherwise signatory to those agreements and as to employees of such employers performing covered work.

27.2 Nothing in this CWA shall modify, amend, or supersede any provisions of any other agreement between the Owner, Contractor, and its subcontractors, or between the Owner, Contractor, its subcontractors and the Council or individual members of the Council.

27.3 The liability of any employer and the liability of the separate unions under this Agreement shall be several and not joint. The unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Contractor(s) or any employer.

ARTICLE 28 GENERAL SAVINGS CLAUSE

28.1 If any article or provision of this Agreement is declared invalid, inoperative, or unenforceable by any administrative agency, or court of competent jurisdiction, the remainder of this CWA shall not be affected thereby. Thereafter, any Party may, upon not less than thirty (30) days written notice to the others, have the right to open negotiations for the substitution of a new article or provision consistent with the decision of the board or court and the intent of the invalidated provision.

ENDORSEMENT

The authorized signature by the undersigned commemorates and affirms the approval of this CWA by all Parties and its adoption as a bid specification for contracts pertaining to all Covered Work on the Project.

FOR THE PARTIES:

By:

Anchorage School District

Date

By:

Contractor

Date

By:

Building and Construction Trades Council of
South Central Alaska - President

Date

Building and Construction Trades Council of South-Central Alaska - Affected trades:

By:

Bricklayers Local 1

Date

(206) 248-2456

By:

Boilermakers Local 502
(253) 435-0330

Date

By:

Cement Masons Local 528
(907) 351-0151

Date

By:

Heat & Frost Insulators Local 7
(206) 812-0777By:

Date

By:

IBEW Local 1547
(907) 272-6571

Date

By:

Ironworkers Local 751
(907) 563-4766

Date

By:

IUOE Local 302
(907) 561-5288

Date

By:

Laborers' Local 341
(907) 341-0341

Date

By:

Western States Regional Council of Carpenters
(907) 276-3533

Date

By:

Painters (IUPAT) Local 1959
(907) 562-8843

Date

By:

Plumbers & Steamfitters UA Local 367
(907) 562-2810

Date

By:

Roofers Local 189
(509) 327-2322

Date

By:

Sheet Metal Workers Local 23
(907) 277-5313

Date

By:

Sprinkler Fitters Local 669
(907) 283-8198

Date

By:

Teamster Local 959
(907) 751-8500

Date

ATTACHMENT 1 - LETTER OF ASSENT**COMMUNITY WORKFORCE AGREEMENT
FOR THE****PROJECT**

The undersigned, as a Contractor or subcontractor on the _____ Project, for and in consideration of the award of a Contract to perform work on said Project, and in further consideration of the mutual promises made in the Community Workforce Agreement (CWA), a copy of which was received, reviewed, is understood, and acknowledged, hereby:

- a. On behalf of itself and all its employees, accepts and agrees to be bound by the terms and conditions of the CWA, together with any and all amendments and supplements, such as individual signatory labor organization's Schedule A's, now existing or that are later made thereto, and understands that any act of non-compliance with all such terms and conditions, will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.
- b. Certifies that it has no commitments or agreements that would preclude its full compliance with the terms and conditions of said CWA.
- c. Agrees to secure from any subcontractor, of any tier (as defined in the CWA), a duly executed Letter of Assent in form identical to this document prior to commencement of any Covered Work.

Dated: _____

(Name of Contractor/Company) _____

(Signature of Authorized Representative) _____

(Print Name and Title) _____

(Phone Number) _____

(Billing Address) _____

(City, State and Zip Code) _____

(General Contractor) _____

(Contract Number) _____

ATTACHMENT 2 – CORE EMPLOYEE ROSTER**COMMUNITY WORKFORCE AGREEMENT
FOR THE****_____ PROJECT**

Contractor or subcontractor Name: _____

Per Article 14, and in accordance with the qualifications listed in Section 14.6, the following shall be considered our core employees for this project:

Name	Classification
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____

Submitted By:

Contractor/subcontractor_____
Date

Page _____ of _____

ATTACHMENT 3 – EMPLOYEE REPRESENTATIVES

**COMMUNITY WORKFORCE AGREEMENT
FOR THE**

PROJECT

Per Section 10.2, the following are the designated Employee Representatives:

Labor Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Physical Address: _____

City: _____ State: _____ Zip: _____

Primary Representative: _____

Cell Phone: _____ Office Phone: _____

Email Address: _____

Alternate Representative: _____

Cell Phone: _____ Office Phone: _____

Email Address: _____

By:

Signatory Labor Organization

Date

ATTACHMENT 4 – PAC DISPUTE

**COMMUNITY WORKFORCE AGREEMENT
FOR THE**

PROJECT

CWA Administrator: _____

Party/Parties Filing Dispute: _____

Point of Contact: _____ Phone: _____

Date of Occurrence: _____

Statement of Dispute: _____

CWA Articles or sections that Apply: _____

Recommended Remedy: _____

By:

Signatory

Date

ATTACHMENT 5 – ALTERNATIVE BENEFITS REQUEST

**COMMUNITY WORKFORCE AGREEMENT
FOR THE**

PROJECT

CWA Administrator: _____ Date: _____

Contractor/subcontractor requesting: _____

Point of Contact: _____ Phone: _____

Signatory Labor Organization Affected: _____

This request to meet and confer about alternative benefit arrangements for core employees shall also include the following:

- 1) A copy of the Contractor's or subcContractor's Health and Welfare and/or Pension plan; and
- 2) A list of the core employees who will be employed on the Project to whom the exemption will be applied and for whom the Contractor's or subcontractor's benefit plan coverage and payment of costs will be maintained; and
- 3) A calculation of the combined Contractor or subcontractor and employee costs for such programs expressed as an hourly cost based upon an assumed average monthly work hours of one hundred and sixty (160) hours.

The requested terms and conditions of alternative benefits for the requested core employees must be approved by the Signatory Labor Organization, and are as follows;

- A. The core employees in this request shall be paid in accordance to the agreed terms for the duration of their employment on the Project. Any core employee may request in writing to cease participation in the Contractor's or subcontractor's plan. Effective on the date of the request, the Contractor or subcontractor shall make contributions on that employee's behalf to the appropriate Trust Fund for the duration of employment on the project.
- B. For all other employees not submitted with this request, shall have their contributions paid to the applicable Trust Funds in accordance with the terms of the CWA.

- C. Copies of all remittance forms confirming compliance with all Trust or benefit program requirements shall be submitted monthly to the Administrator.
- D. If the Contractor or subcontractor has only one of the two qualifying benefits, either Pension or Health and Welfare plans, and not the other, the Contractor then must participate in the appropriate Trust Fund for the benefit that they do not provide.
- E. Any difference between the Contractor or subcontractor benefit amount and the Signatory Labor organization benefit amount shall be paid on the check so that the total is equal to the appropriate prevailing wage determination.
- F. The Contractor or subcontractors must pay the prevailed amount into the appropriate Training Trust Funds for the appropriate Signatory Labor Organization.
- G. These conditions may be altered by mutual agreement, in writing, only by the Contractors or subcontractors signing this appendix and the signatory labor organization affected.

Submitted By:

Contractor or subcontractor

Date

Alternative benefits as requested are Agreed and approved by:

Signatory Labor Organization

Date

