

# INVITATION TO BID



## KENAI PENINSULA BOROUGH Purchasing and Contracting Department

ITB17-037

### Chapman Elementary School Window-Wall and Siding Replacement

Release Date: April 21, 2017

Pre-Bid Conference: May 2, 2017 at 10:00 AM  
Purchasing and Contracting Conference Room

Bid Due Date: May 11, 2017, no later than 2:00 PM  
Kenai Peninsula Borough  
Purchasing and Contracting Office  
47140 E Poppy Lane, Soldotna, Alaska 99669

## **TABLE OF CONTENTS**

### **PART I**

#### **BIDDING DOCUMENTS**

Invitation to Bid  
Instructions to Bidders  
Bid Form  
Tax Compliance Form  
Bid Bond Form

### **PART II**

#### **CONTRACT DOCUMENTS**

Sample Agreement Form  
Payment Bond  
Performance Bond  
Lien Release

### **PART III**

#### **CONTRACT CONDITIONS**

General Conditions

### **PART IV**

#### **TITLE 36 WAGE SCHEDULE**

Retrieve current schedule  
from: [www.labor.state.ak.us/lss/pamp600.htm](http://www.labor.state.ak.us/lss/pamp600.htm)

### **PART V**

#### **SPECIFICATIONS**

Specifications

### **PART VI**

#### **DRAWINGS**

Drawings

# **PART I**

## **BIDDING DOCUMENTS**



## KENAI PENINSULA BOROUGH

Purchasing & Contracting  
47140 E Poppy Lane • Soldotna, Alaska 99669-7520  
Phone: (907) 714-2260 • Fax: (907) 714-2373  
www.kpb.us/purchasing

**MIKE NAVARRE**  
BOROUGH MAYOR

### INVITATION TO BID

#### **ITB17-037 Chapman Elementary School Window-Wall and Siding Replacement**

The Kenai Peninsula Borough hereby invites qualified firms to submit a firm price for acceptance by the Borough for ITB17-037 Chapman Elementary School Window-Wall and Siding Replacement. The project consists of the following:

Remove and replace siding and window-walls of classroom wing of Chapman Elementary School. Replacement siding to be pre-finished steel metal panels. Replacement windows to be anodized aluminum thermal break windows.

A pre-bid conference will be held at the Purchasing and Contracting Conference Room, 47140 East Poppy Lane, Soldotna, AK, at 10:00 AM on May 2, 2017. Attendance at the pre-bid is not mandatory but is strongly recommended. If you are unable to attend but would like to participate, we are offering the opportunity for you to call in and join the pre-bid meeting. The number to call is (907) 262-2044

This contract is subject to the provision of State of Alaska, Title 36, Minimum Wage Rates. The subsequent contract will require certificates of insurance and may require performance and payment bonds.

Bid documents may be obtained beginning April 21, 2017 online at <http://www.kpb.us/purchasing/opportunities>. Hard copies can be picked up at the Purchasing and Contracting Department, 47140 East Poppy Lane, Soldotna, AK, 907-714-2260 for a non-refundable fee of \$20.00.

One (1) complete set of the bid package may be submitted electronically through BidExpress.com or in hard copy to the Kenai Peninsula Borough, Purchasing and Contracting Department at 47140 E Poppy Lane, Soldotna, Alaska 99669. If submitting a hard copy bid, these forms must be enclosed in a sealed envelope with the bidder's name on the outside and clearly marked:

**BID:** ITB07-037 Chapman Elementary School  
Window-Wall and Siding Replacement  
**DUE DATE:** May 11, 2017 no later than 2:00 PM

Kenai Peninsula Borough

Publish:	Peninsula Clarion	April 21, 2017
	Alaska Dispatch News	April 21, 2017
	Homer News	April 27, 2017

## **INSTRUCTIONS TO BIDDER**

### **1. GENERAL:**

These instructions specify the form and procedures for the submission of a complete and acceptable bid. (See Bid Form/Schedule.)

In an effort to make the solicitation process more efficient and cost effective for both vendors and the agency, the Kenai Peninsula Borough has adopted an electronic bidding process for Invitations to Bid and Requests for Proposal. Electronic bids/proposals may be submitted at the [BidExpress.com](http://BidExpress.com) website as the primary method of bid/proposal submission. For a limited time, paper bids/proposals will continue to be accepted, but it is strongly recommended vendors become familiar with the electronic process as soon as possible to prepare for future plans to only accept electronic bids/proposals.

### **2. EVIDENCE OF QUALIFICATIONS:**

Upon request of the Owner, a Bidder whose Bid is under consideration for the award of the Agreement shall submit promptly to the Owner satisfactory evidence of the Bidder's financial resources, their experience, their performance in completing other projects of a similar nature, and the organization and equipment they have available for the performance of the Agreement.

### **3. BIDDER QUALIFICATIONS:**

Before the Bid is considered for award, the Purchasing and Contracting Director reserves the right to determine whether or not a Bidder is responsible and to require the Bidder to complete a Bidder Qualification Form and/or a current financial statement prepared by a Certified Public Accountant. The Purchasing and Contracting Director shall determine whether a Bidder is responsible on the basis of the following criteria:

- The skill and experience demonstrated by the Bidder in performing Agreements of a similar nature.
- The Bidder's record for honesty and integrity.
- The Bidder's capacity to perform in terms of facilities, personnel, and financing.
- The Bidder's past performance under Borough Agreements. If the Bidder has failed in any material way to perform its obligations under any Agreement with the Borough, the Bidder may be determined as a non-responsible Bidder.
- A Bidder's representations concerning their qualifications will be construed as a covenant under the Agreement. Should it appear that the Bidder has made a material misrepresentation, the Borough shall have the right to terminate the Agreement for the Contractor's breach, and the Borough may then pursue such remedies as provided in the Agreement Documents or as provided by state statute, borough code, or as appropriate.

Any determination that a Bidder is non-responsible will be made by the Purchasing and Contracting Director. Such determination will be made in writing to the Bidder setting forth the reasons for such determination.

#### **4. CONDITIONS AFFECTING THE WORK:**

The Bidder shall examine carefully the site of the proposed work and the Bidding Documents before submitting a Bid. 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 requirements and accuracy of the Bidding Documents.

The Borough assumes no responsibility for any understanding or representations concerning conditions made by any of its officers, agents, or employees prior to the execution of this Agreement, unless such understanding or representations are expressly stated in the Bidding Documents or Addenda.

The Bidder shall include in their Bid sufficient sums to cover all items required by the Agreement and the conditions of the site(s), and shall rely entirely upon their own examination in making their Bid. The submission of a Bid shall be taken as prima facie evidence of compliance with this paragraph.

If material required for bidding purposes by these documents is absent, the bidder is required to notify the Purchasing and Contracting Director by facsimile (907) 714-2373, by e-mail to [purchasing@kpb.us](mailto:purchasing@kpb.us) or by submitting the information/question through the online questions and answers process at [BidExpress.com](http://BidExpress.com).

#### **5. SECURITY TO BE FURNISHED BY BIDDER**

If the bid exceeds \$100,000 the following apply: Certified check, bank cashier's check, or bid bond, made payable to the Kenai Peninsula Borough amount equal to five (5%) percent of the total bid, shall accompany each bid as evidence of good faith, a guarantee that if awarded the contract, the Bidder will execute the contract and give bond as required. All Bidder's checks or bid bonds will be retained until the successful bidder has entered into a satisfactory contract and furnished bonds, as required. Bidders who are bidding online may utilize the electronic bid bond option through the [BidExpress.com](http://BidExpress.com). The successful Bidder shall furnish the Owner a Performance and Payment bond in the full amount of the Agreement and shall maintain the Bond in force during the continuance of the Agreement. The bonds must be furnished prior to the Owner's execution of the contract. The Bond shall be for the faithful performance of the Agreement in all respects including, but not limited to, payments for all materials and labor. All alterations, extensions of time, additional work, and other changes authorized by the Agreement Documents may be made without securing the consent of the Surety or Sureties. Power-of-Attorney for the person signing the Bond for the Surety must be submitted with the Bond. These bonds, in whatever amount required by the specific contract, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25, and shall comply with all requirements for payment and submission of claims as provided by that chapter.

#### **6. LICENSING**

Section 43.70.020 of the Alaska State Statutes requires that all businesses wishing to engage in business in Alaska obtain a license. All bidders are required to furnish, on the Bid Form, a current, valid Alaska Business License Number and, if applicable, a current, valid Contractor's

License Number, Specialty Contractor License Number, etc. Failure to submit all required information on the Bid Form may result in rejection of the Contractor's bid.

## **7. TAX COMPLIANCE CERTIFICATE**

Kenai Peninsula Borough Code requires that businesses or individuals contracting to do business with the Kenai Peninsula Borough be in compliance with Borough tax provisions. No contract will be awarded to any individual or business who is found to be in violation of the Borough Code of Ordinances in the several areas of taxation. The *Tax Compliance Certificate* must be signed by the bidder and submitted with the bid. (Note: Tax Compliance Certificates are not required to be approved by the Boroughs Finance Department prior to submitting a bid.)

## **8. LOCAL PREFERENCE**

A 5 percent local preference policy has been established and may be applied to all purchases under \$50,000. A local business is defined as: any business or company having a physical presence in the Borough, registered in the Borough to collect sales tax, and locally provides the products and services sought.

## **9. INTERPRETATION OR CORRECTIONS OF BID DOCUMENTS**

Bidders shall notify the Purchasing and Contracting Director promptly of any error, omission, or inconsistency that may be discovered during examination of the Bid Documents and the proposed work site. Requests from Bidders for interpretation or clarification of the Bid Documents shall be made in writing to the Purchasing and Contracting Director and shall arrive no later than 5:00 PM on May 5, 2017. Questions may be submitted through the online questions and answers section of this bid on BidExpress.com, faxed to (907) 714-2373 or emailed to [purchasing@kpb.us](mailto:purchasing@kpb.us). The subject line of the email should read, "Questions: ITB17-037 Chapman Elementary School Window-Wall and Siding Replacement".

Oral questions may be presented at a pre-bid conference if one is provided for in the Bid Documents. Interpretations, corrections, material substitution requests or changes, if any, to the Bid Documents shall be made by Addendum. Bidders shall not rely upon interpretations, corrections, and changes made in any other manner, including orally, at the pre-bid conference. Interpretations, corrections, and changes shall not be binding unless included in an Addendum. All Addenda issued during the time of bidding shall become part of the Agreement Documents. Questions or requests for clarifications shall be directed to the Borough's Purchasing and Contracting Director. Questions or requests for clarification directed to any other member of the Borough staff may be grounds for rejection of the bid as being irregular. Only written interpretations or corrections by addendum shall be binding, and no other forms of interpretation or correction will be binding on the Borough.

It is the Bidder's sole responsibility to ascertain that they have received all Addenda issued by the Purchasing and Contracting Office. Addenda will be issued electronically and/or by facsimile. All Addenda must be acknowledged in the space provided on the Bid Form. If no Addendum has been issued, leave blank or write or type "N/A" on the Bid Form in the space provided.

## 10. PREPARATION AND SUBMISSION OF BIDS

- Bids must be received by no later than the time and at the place stated in the Invitation to Bid (Kenai Peninsula Borough Purchasing & Contracting Department, 47140 E Poppy Lane, Soldotna, Alaska 99669).
- Paper bids must be submitted on the bid form furnished. Paper bids must be completed in ink or by typewriter, and must be manually signed by an authorized person. If erasures or other changes appear on the forms, the person signing the bid must initial each erasure or change in ink.
- Bids shall specify a unit or lump sum price, typed or written in ink in figures, for each bid item called for. In case of error in the extension of prices, the unit price will govern. Bids may be rejected if they show any omissions, alteration of the forms, additions not called for, conditional or alternate bids not called for, qualified bids, or irregularities of any kind.
- It is expressly agreed that the quantities shown in the Bid Schedule, whether for a "Unit Price Bid" or in connection with a "Lump Sum Bid" given under the heading "Bid Schedule" are approximate only for use as a basis for comparison of Bids and are not to be taken to be either representations or warranties. The Owner does not expressly, nor by implication, agree that the actual amount of work will correspond therewith.
- The Bid Schedule invites bids on definite plans and specifications. Only the amounts and information asked for on the Bid Schedule will be considered as the bid. Each bidder shall bid upon the work exactly as specified and as requested on the Bid Schedule, and bidders shall bid upon all alternates as indicated. When bidding on an alternate for which there is no charge, Bidder Shall Write the words "no charge" in the space provided.
- Electronic bids may be submitted by following the submission process through BidExpress.com. All bidders planning to submit bids electronically must first register on BidExpress.com and create an Info Tech Digital ID, which is used to digitally sign bids.
- If submitting a paper bid, one (1) complete set of the bid package (which shall include the Bid Form, Tax Compliance Certificate, and bid schedule, if applicable) shall be completely sealed in an envelope clearly marked with the Bidder's company name and the following:

**Bid for: ITB17-037 Chapman Elementary School  
Window-Wall and Siding Replacement**  
**Due Date: May 11, 2017, no later than 2:00 pm**

- Bids received without all the required documents may be considered non-responsive. Bids received after the closing time will be considered non-responsive and will not be read.
- No responsibility shall be attached to the owner for the premature opening of, or the failure to open a bid not properly addressed and identified.

- Please note that overnight delivery from the lower 48 states is generally not available. Prospective bidders should anticipate a minimum of two (2) to three (3) days' delivery time for express, priority or expedited delivery services.
- Please note that it can take up to five (5) business days to activate a digital signature for electronic bids and process your Digital ID. It is highly recommended that a Digital ID be enabled a minimum of 48 hours in advance of submitting an electronic bid.

## **11. MODIFICATION OF BIDS**

Bid modifications will be accepted by the Borough, and binding upon the Bidder, where the modification:

- Is received by the Owner at the place designated for submission of bids prior to the deadline.
- Is sealed in an envelope clearly stating "Bid Modification," the name of the project, and the Bidder's company name.
- Is signed by the same individual who signed the original bid.

Should there be more than one bid modification from a Bidder, the last modification received prior to the deadline shall be opened and applied to the bid. All earlier modifications shall be returned to the Bidder unopened.

Modifications to electronically submitted bids may be made any time prior to the bid deadline using BidExpress.com.

Any modification which fails to meet any requirement of this section shall be rejected, and the bid shall be considered as if no modification had been attempted.

## **12. WITHDRAWAL OF BID**

At any time prior to scheduled closing time for receipt of bids, any bidder may withdraw their bid, either personally or by written request.

After the scheduled closing time for receipt of bids, no bidder will be permitted to withdraw their bid unless Notice of Award is delayed for a period exceeding Forty Five (45) days.

A bid may not be withdrawn after opening without the written consent of the Borough.

## **13. ACCEPTANCE – REJECTION OF BIDS**

The Borough reserves the right to reject any or all bids, to waive minor irregularities in any bids or in the bidding procedure, and to accept any bid presented which meets or exceeds said specifications and which is deemed to be in the best interest of the Borough. However, the requirements for timeliness and manual signatures shall not be waived. The Borough is not obligated to accept the lowest bid and is not responsible for bid preparation costs.

If any bidder has interest in more than one bid, all bids in which such bidder has interest shall be rejected.

#### 14. EXECUTION OF CONTRACTS

The successful bidder shall be required to execute a contract for the work within ten (10) days after receiving the contract documents from Owner; if Contractor does not return executed copies within this time, then, at the option of Owner, the bid may be rejected.

#### 15. AWARD OF CONTRACT

It is the intent of the Borough to award the bid to the lowest, qualified, responsive and responsible bidder. Unless otherwise stated in the Bid Documents, the Agreement, if awarded, shall be awarded to the responsible Bidder who submits the lowest responsive bid. When Bid Documents contain a base bid and alternates, only the total of the base bid and the alternates to be awarded shall be used to determine the low bidder.

When the Bid Documents contain additive or deductive alternates, the apparent low Bidder will be determined by the lowest base bid plus additive, or less deductive alternates. Owner is not required to award any alternate and may choose all, none, or some of the alternates as it deems in its best interest. If the order of bidders would not be affected, Owner has the right to select any alternate or combination of alternates. If the order of bidders would be affected, award will be based on the base bid plus the additive, or less the deductive alternates, in the order provided on the bid schedule, until the award can be made within the available funds. Award will be subject to the availability of funds, which is determined solely by Owner.

The amount of the Agreement shall be the total sum of the amounts computed from the estimated quantities and unit prices and/or the lump sum awarded by the Purchasing and Contracting Director and specified in the Agreement.

On all Bids, Notice of Award or rejection will be given within Forty Five (45) days of Bid opening. The notice will be in writing and signed by the Purchasing and Contracting Director. A Notice of Intent to Award, and no other act of the Borough or its representatives, constitutes an acceptance of a Bid. The acceptance of a Bid shall bind the successful Bidder to execute the Agreement.

#### 16. TIMELINE

Advertise for Bids.....	April 21, 2017
Pre-Bid Meeting .....	May 2, 2017
Final Questions Due, by close of business.....	May 5, 2017
Bids Due at KPB Purchasing and Contracting Office, no later than 2:00 PM.....	May 11, 2017
Substantial Completion .....	On or before August 10, 2017

#### 17. CONFLICTS OF INTERESTS

No member of the governing body of the Kenai Peninsula Borough or other officer, employee or agent of the Borough who exercises any functions or responsibilities in connection with the carrying out of the project shall have any personal interests, direct or indirect, in any ensuing contract as a result of this Invitation to Bid, **without first disclosing his/her potential conflict, by submitting a letter to the Borough Clerk's Office establishing their "intent to do**

**business with the Borough” (KPB 2.58.050).** The contractor for itself and its principal employees, officers, agents, directors or shareholders covenants that neither the contractor nor any of the listed classes of individuals has nor shall acquire any interest, direct or indirect, in the project, direct or indirect, to which the contract pertains which would conflict in any manner or degree with the performance of its work hereunder. The selected bidder further covenants that in its performance of the contract no person having such interest shall be employed, **without first disclosing his/her potential conflict.**

## **18. APPEAL PROCESS**

A bidder adversely affected by the provisions of Chapter 5.28 of the KPB Code, or regulations promulgated thereunder, or by any acts of the Borough in connection with the award of this contract may file a bid protest personally received at the office of the Borough Purchasing and Contracting Director within three (3) business days after the notice of intent to award is provided. This appeal must comply with the requirements of KPB 5.28.320 of the Borough code and may be hand delivered, delivered by mail, or by facsimile at (907) 714-2373. A fee of \$300 shall be paid to the Borough and must be received by the deadline for filing the written appeal. This fee shall be refundable if the appellant prevails in the appeal to the mayor or assembly.

**BID FORM**  
**ITB17-037**  
**Chapman Elementary School – Window-Wall and Siding Replacement**  
**Page 1 of 2**

- BIDDER ACKNOWLEDGEMENT**
1. To accept the provisions of the Instructions to Bidders.
  2. To furnish all labor and materials and to accomplish the works and/or services in accordance with the Bid Documents.
  3. The undersigned declares, under penalty of perjury under the laws of the United States, that neither he/she nor the firm, association or corporation of which he/she is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

**ADDENDA ACKNOWLEDGEMENT**

In submitting this bid, I certify that I have examined the Bid and Specification documents, have received Addenda Nos.     , and have included their provisions in my bid.

**SIGNATURE REQUIREMENT**

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Representative \_\_\_\_\_ Title \_\_\_\_\_

Email Address \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

The undersigned has read the foregoing and hereby agrees to the conditions stated therein by affixing his/her signature below:

\_\_\_\_\_

**Signature of Authorized Company Representative** **Date**

**Bidder Checklist:**  
Bid Form: \_\_\_\_  
Bid Schedule (if applicable) \_\_\_\_  
Tax Compliance Form \_\_\_\_  
Bid Bond (if applicable) \_\_\_\_

**Licensing Information:**  
Alaska Business License # \_\_\_\_\_  
Contractor License (if applicable) # \_\_\_\_\_  
Specialty Contractor License # (if applicable) \_\_\_\_\_



# Kenai Peninsula Borough

144 N. Binkley  
Soldotna, Alaska 99669-7599

BUSINESS: (907) 714-2197 or (907) 714-2175  
FAX: (907) 714-2376



## TAX COMPLIANCE CERTIFICATION

FILL IN ALL INFORMATION REQUESTED, SIGN AND DATE, AND SUBMIT WITH BID OR PROPOSAL

Reason for Certificate: \_\_\_\_\_ For (Dept.): \_\_\_\_\_  
 Date Rec'd by Finance: \_\_\_\_\_ Business Name: \_\_\_\_\_  
 Owner Name(s): \_\_\_\_\_ a. Individual \_\_\_\_\_  
 Business Mailing Address: \_\_\_\_\_ b. Corporation \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ c. Partnership \_\_\_\_\_  
 E-mail: \_\_\_\_\_ d. Other \_\_\_\_\_

As a business or individual, have you ever conducted business or owned real or personal property within the Kenai Peninsula Borough? Yes \_\_\_ No \_\_\_ (If yes, please supply the following account numbers and sign below. If no, please sign below.)  
 Kenai Peninsula Borough Code of Ordinances, Chapter 5.28.140, requires that businesses/individuals contracting to do business with the Kenai Peninsula Borough be in compliance with Borough tax provisions. No contract will be awarded to any individual or business who is found to be in violation of the Borough Code of Ordinances in the several areas of taxation.

REAL/PERSONAL/BUSINESS PROPERTY ACCOUNTS

Number	Account Name
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

<u>TAX ACCOUNTS/STATUS</u>	
(TO BE COMPLETED BY BOROUGH PERSONNEL)	
YEAR LAST PAID	BALANCE DUE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

\_\_\_\_\_  
Kenai Peninsula Borough Finance Dept (Signature Required)

Date \_\_\_\_\_ IN COMPLIANCE  
 YES  NO

SALES TAX ACCOUNTS

Number	Account Name
_____	_____
_____	_____
_____	_____

<u>TAX ACCOUNTS/STATUS</u>		
(TO BE COMPLETED BY BOROUGH PERSONNEL)		
FILED THRU	M/F's	BALANCE DUE
_____	_____	_____
_____	_____	_____
_____	_____	_____

\_\_\_\_\_  
Kenai Peninsula Borough Sales Tax (Signature Required)

Date \_\_\_\_\_ IN COMPLIANCE  
 YES  NO

I, \_\_\_\_\_, the \_\_\_\_\_, hereby certify that, to the best of my knowledge, the above  
 (Name of Applicant) (Title)  
 information is correct as of \_\_\_\_\_.  
 (Date) (Signature of Applicant - Required)

**\*\*\* IF ANY BUSINESS IS CONDUCTED OR IS AWARDED A BID WITHIN THE KENAI PENINSULA BOROUGH YOU MUST BE REGISTERED TO COLLECT SALES TAX. THE SALES TAX DEPARTMENT CAN BE REACHED AT (907) 714-2175.**

# BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_

\_\_\_\_\_ as Principal, and \_\_\_\_\_

as Surety, are hereby held and firmly bound unto \_\_\_\_\_

as the OWNER, in the penal sum of \_\_\_\_\_  
for the payment of which, well and truly made, we hereby jointly and severally bind ourselves,  
successors and assigns.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_. The Principal has submitted to \_\_\_\_\_

\_\_\_\_\_, a certain BID, attached hereto and hereby made a part

hereof, to enter into a contract in writing for the \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID), and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_  
Principal \_\_\_\_\_ L.S.)

Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

IMPORTANT- - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

## **PART II**

# **CONTRACT DOCUMENTS**

**KENAI PENINSULA BOROUGH  
AGREEMENT BETWEEN OWNER AND CONTRACTOR**

MADE AS OF THE \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_.

BETWEEN the OWNER:                   KENAI PENINSULA BOROUGH  
  144 North Binkley Street  
  Soldotna, Alaska 99669

AND the CONTRACTOR:

FOR the PROJECT:                       **ITB17-037 CHAPMAN ELEMENTARY SCHOOL  
WINDOW-WALL AND SIDING REPLACEMENT**

The Owner and Contractor agree as set forth below.

**ARTICLE 1  
THE WORK**

The Contractor shall perform all the work required by the contract documents enumerated below, which are specifically incorporated into this agreement by reference and which form the contract documents:

- A.     The Contractor's executed bid, dated \_\_\_\_\_(Attachment "A").
- B.     The General Conditions for Project (Attachment "B").
- C.     Addendum No. \_\_\_\_ (Attachment "C").
- D.     Specifications (Attachment "D").
- E.     Drawings (Attachment "E").
- F.     Any and all later modifications, change orders and written interpretations of the Contract Documents issued by the Owner and agreed to by Contractor. (Attachment "F").

Any other attachments to this agreement do not form a part of the agreement but are for reference or proof of compliance with the requirements of the agreement.

**ARTICLE 2  
TIME OF COMMENCEMENT AND COMPLETION**

Work shall commence upon receipt of the Notice To Proceed. All work must be substantially completed on or before August 10, 2017. Time is of the essence, and liquidated damages will be charged against the Contractor as provided in Article 10, below.

**ARTICLE 3**  
**CONTRACT SUM**

The Owner shall pay the Contractor as provided in this contract the total sum price of \$\_\_\_\_\_ for the successful completion of the specified work.

**ARTICLE 4**  
**PROGRESS PAYMENT**

Based upon applications for payment submitted by the Contractor, the Owner shall provide for Progress Payments to the Contractor on a monthly schedule. Upon proper application submitted no later than ten (10) days prior to the next scheduled Contractor payday, the Contractor shall be paid for the value of the work performed and materials stored at the site during the period preceding payment. Each application for progress payment shall be on an approved Application for Payment form and shall contain a completed Schedule of Values. All sums properly due shall be paid within thirty (30) days of receipt of application. Prior to final payment, the Contractor shall submit the written consent of surety to such payment and shall submit notarized waivers of lien from all materialmen and subcontractors.

**ARTICLE 5**  
**FINAL PAYMENT**

The Owner shall make final payment within thirty (30) days after issuance of a Certificate of Final Completion of the work subject to provisions of the General Conditions. The Certificate of Final Completion acknowledges that all work required by the contract documents has been completed in accordance with the requirements of the contract. The Contractor shall request the final inspection at least five (5) days in advance of the anticipated date of inspection. If all work has not been satisfactorily completed, the Contractor shall be liable for all costs incurred by the Owner in making such inspection.

**ARTICLE 6**  
**NOTICES**

All legal notices relating to this contract, including changes of address, shall be mailed to the Owner and the Contractor at the following addresses:

**OWNER**

Kenai Peninsula Borough  
Purchasing and Contracting Department  
47140 East Poppy Lane  
Soldotna, Alaska 99669

**CONTRACTOR**

**ARTICLE 7**  
**INDEMNIFICATION**

No provision in the contract documents lessens, alters, or makes inapplicable the requirement for indemnification stated in GC 4.13. In the event of conflict between GC 4.13 and any other contract provision(s), the requirements set out in GC 4.13 control.

**ARTICLE 8**  
**JURISDICTION: CHOICE OF LAW**

This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.

**ARTICLE 9**  
**ATTACHMENTS**

In the event there is any difference between an attachment to the original of this agreement on file with the Kenai Peninsula Borough Clerk and any attachment to a copy of the agreement, the attachments to the original filed with the Borough Clerk shall control.

**ARTICLE 10**  
**LIQUIDATED DAMAGES**

Owner and Contractor recognize that time is of the essence in performance of this contract and the Owner will suffer financial loss if the work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with contract documents. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Owner if the work is not substantially complete on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner Five Hundred Dollars (\$500.00) for each calendar day that expires after the contract time required for substantial completion to the actual date of substantial completion determined as set out in the CONTRACT documents. The Owner and Contractor agree that this amount is a reasonable forecast of just compensation for the harm that is caused by the delay.

**ARTICLE 11**  
**NO THIRD-PARTY BENEFICIARY**

This agreement is intended solely for the benefit of each party hereto. Nothing contained herein shall be construed or deemed to confer any benefit or right upon any third party.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed in their respective names or by their duly authorized representatives as of the date and year above written.

KENAI PENINSULA BOROUGH

CONTRACTOR

\_\_\_\_\_  
Mike Navarre, Borough Mayor

\_\_\_\_\_  
Name and Title of Office (printed or typed)

Date: \_\_\_\_\_

\_\_\_\_\_  
Company Name (printed or typed)

\_\_\_\_\_  
Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Name and Title of Second Officer (printed or typed) 1

\_\_\_\_\_  
Signature  
Date: \_\_\_\_\_

ATTEST:

AGREEMENT AND ATTACHMENTS  
TO ORIGINAL APPROVED AS TO  
FORM AND LEGAL SUFFICIENCY:

\_\_\_\_\_  
Johni Blankenship, Borough Clerk

\_\_\_\_\_  
Amy Fenske  
Assistant Borough Attorney

(Borough Seal)

\* Second Corporate Officer

**ACKNOWLEDGMENTS**

STATE OF ALASKA                    )  
  ) ss.  
THIRD JUDICIAL DISTRICT        )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by \_\_\_\_\_, Mayor of the Kenai Peninsula Borough, an Alaska  
municipal corporation, for and on behalf of the corporation.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

**CORPORATION**

STATE OF ALASKA                    )  
  ) ss.  
THIRD JUDICIAL DISTRICT        )

\_\_\_\_\_  
1 Second Corporate Officer

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by (name) \_\_\_\_\_, the (title of officer) \_\_\_\_\_  
\_\_\_\_\_ of (name of corporation) \_\_\_\_\_, an  
Alaska Corporation, for and on behalf of the corporation.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

**SECOND CORPORATE OFFICER**

STATE OF ALASKA                    )  
  ) ss.  
THIRD JUDICIAL DISTRICT        )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by (name) \_\_\_\_\_, the (title of officer) \_\_\_\_\_  
of (name of corporation) \_\_\_\_\_, an Alaska  
Corporation, for and on behalf of the corporation.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

**LIMITED LIABILITY COMPANY**

STATE OF ALASKA                    )  
  ) ss.  
THIRD JUDICIAL DISTRICT        )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by (name) \_\_\_\_\_, the (member/manager) \_\_\_\_\_  
of (name of LLC) \_\_\_\_\_, an Alaska Limited Liability  
Company, for and on behalf of the LLC.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

**PARTNERSHIP**

STATE OF ALASKA )  
 ) ss.  
THIRD JUDICIAL DISTRICT )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by (name of partner or agent) \_\_\_\_\_, partner (or agent) of  
(name of partnership) \_\_\_\_\_ for and on behalf of  
the partnership.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

**SOLE OWNERSHIP**

STATE OF ALASKA )  
 ) ss.  
THIRD JUDICIAL DISTRICT )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by (name) \_\_\_\_\_, dba \_\_\_\_\_  
\_\_\_\_\_.

\_\_\_\_\_  
Notary Public for State of Alaska  
My Commission Expires: \_\_\_\_\_

(Notary Seal)

# PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_

(Name of Contractor)

\_\_\_\_\_

(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership, Limited Liability Company or Individual)

\_\_\_\_\_

(Name of Surety)

\_\_\_\_\_

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_

(Name of Owner)

\_\_\_\_\_

(Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars,  
(\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and  
truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally,  
firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract  
with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached and  
made a part hereof for the construction of:

\_\_\_\_\_

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and  
corporations furnishing materials for or performing labor in the prosecution of the work provided for in such  
contract, and any authorized extension or modification thereof, including all amounts due for materials  
lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in  
connection with the construction of said work, and all insurance premiums on said work, and for all labor,  
performed in such work whether by subcontractor or other-wise, then this obligation shall be void; otherwise to  
remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change,  
extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder  
or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does  
hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or  
to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

\_\_\_\_\_  
(Principal) (SEAL)

\_\_\_\_\_  
(Principal Secretary)

ATTEST:

BY \_\_\_\_\_

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Surety) (SEAL)

ATTEST:

BY \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Date)

NOTE: If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

# PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_

(Name of Contractor)

\_\_\_\_\_

(Address of Contractor)

a \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership, Limited Liability Company or Individual)

\_\_\_\_\_

(Name of Surety)

\_\_\_\_\_

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_

(Name of Owner)

\_\_\_\_\_

(Address of Owner)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars,  
(\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly  
to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally,  
firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract  
with the Owner, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, a copy of which is hereto attached  
and made a part hereof for the construction of:

\_\_\_\_\_  
NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings,  
covenants, terms, conditions, and agreements of said contract during the original term thereof, and any  
extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall  
satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the  
Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and  
repay the owner all outlay and expense which the Owner may incur in making good any default, then this  
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change,  
extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder  
or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does  
hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or  
to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

\_\_\_\_\_  
(Principal) (SEAL)

\_\_\_\_\_  
(Principal Secretary)

ATTEST:

BY \_\_\_\_\_

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Surety) (SEAL)

ATTEST:

BY \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Date)

NOTE: If Contractor is Partnership, all partners should execute bond.

**IMPORTANT:** Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

**CONTRACTOR'S RELEASE AND AFFIDAVIT OF PAYMENTS  
OF DEBTS AND CLAIMS ("Release")**

**PROJECT NUMBER & NAME:**      [Click here to enter text.](#)

**CONTRACTOR/SUBCONTRACTOR:**      [Click here to enter text.](#)

The undersigned, being first duly sworn, deposes and says:

1. That pursuant to this contract for project [Click here to enter text.](#) between the undersigned and the Kenai Peninsula Borough dated [Click here to enter text.](#) the undersigned hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for materials and equipment furnished for all work, labor, and services performed and for all known indebtedness and claims for which the Contractor or the Kenai Peninsula Borough is or may become liable in connection with performance under this contract. The Contractor warrants that he has made diligent search and inquiry to determine the existence of any such claim, debt, or liability and that all such obligations, whether liquidated, unliquidated, or disputed, have been satisfied.

2. The Contractor further certifies he did not extend any loan, gratuity, or gift of money of any form whatsoever to any employee or agent of the Borough, that he did not rent or purchase any equipment or materials from any employee of the Borough, nor to the best of his knowledge, from any agent of any employee of the Borough, and that he has not made any promise to an employee or agent of the Borough to do or undertake any such action after completion of the subject contract.

3. Pursuant to the above-described contract and in consideration of the final payment in the amount of \$[Click here to enter text.](#), the undersigned Contractor hereby releases and discharges the Kenai Peninsula Borough, its officers, agents and employees of and from any and all further claim, debt, charge, demand, liability, or other obligation whatsoever under or arising from said contract, whether known or unknown and whether or not ascertainable at the time of the execution of this instrument except specified claims in stated amounts or in estimated amounts where the amount are not known by the Contractor, as follows:

[Click here to enter text.](#)

The Contractor, in connection with the claims which are not released as set forth above, certifies that he has or agrees that he will comply with all the provisions of the said contract, including without limitation those provisions relating to notification of the contracting officer and relating to the prosecution of claims.

4. The Contractor shall indemnify, defend, save and hold the Borough, its elected and appointed officers, agents and employees, harmless from any and all claims, demands, suits, or liability of any nature, kind or character including costs, expenses, and attorneys fees resulting from Contractor or Contractor's officers, agents, employees, partners, attorneys, suppliers, and subcontractors' performance or failure to perform this Agreement in any way whatsoever. This defense and indemnification responsibility includes claims alleging acts or omissions by the Borough or its agents which are said to have contributed to the losses, failure, violations, or damage. However, Contractor shall not be responsible for any damages or claim arising from the sole negligence or willful misconduct of the Borough, its agents, or employees. Contractor and subcontractors shall also not be required to defend or indemnify the Borough for damage or loss that has been found to be attributed to an independent contractor directly responsible to the Borough under separate written contract.



## **PART III**

# **CONTRACT CONDITIONS**

**GENERAL CONDITIONS OF THE CONTRACT  
BETWEEN OWNER AND CONTRACTOR**

**ARTICLE 1    CONTRACT DOCUMENTS**

- 1.1     The contract documents enumerated in the Agreement between Owner and Contractor form the final and completely integrated contract between the parties and supersede any prior statements, negotiations, agreements, documents or representations, written or oral. What is required by any one contract document is deemed to be required by all documents.
- 1.2     The contract documents consist of documents designated as contract documents and enumerated in the Agreement between Owner and Contractor.
- 1.3     The contract documents do not include Invitation to Bid, Instructions to Bidder, sample forms, portions of Addenda relating to any of these, or any other documents unless specifically enumerated in Agreement between Owner and Contractor.
- 1.4     Unless specifically provided otherwise in the contract documents the parties to this agreement intend that Contractor will obtain all permits, inspections, tests, bonds, and insurance required by state or federal law, rule, regulation or order, or local ordinance or rule or regulation or the contract documents, whichever requirement is greater, and provide all labor, equipment, transportation, water, heat, utilities, tools, scaffolding, materials, supplies, facilities, and services necessary for performance of the contract and that the cost of these requirements be included within the contract price. The parties further intend that the cost of all overhead, supervision, and other incidental expenses required or occasioned by the contract is included in the contract price. The parties also intend that minor items required to produce complete functional system(s) and sub-system(s) are deemed to be required by the contract documents at the contract price whether or not specifically expressed. The requirements stated in this provision apply whether or not the execution or completion of the work is temporary or permanent and whether or not it is incorporated or to be incorporated in the work or final product.
- 1.5     The requirements of the contract documents and the duties and rights of each party may be amended subsequent to execution of this contract only by:
1.        A written amendment to the contract signed by both parties; or,
  2.        A change order issued pursuant to ARTICLE 9.1
- 1.6     The term "Work" includes all procurement, labor, materials, products, equipment, erection, installation, and alterations necessary to complete the construction envisioned by this contract. The term "Project" refers to the overall construction, of which the work required by the contract may be the whole or may be a part. The term "Architect" also refers to Registered Engineers as appropriate.
- 1.7     The contract between Owner and Contractor shall be executed and returned by Contractor within the time required in the instructions to bidders. A written Notice to Proceed with the work will be issued to Contractor within five (5) days after Owner has executed the contract, except as provided in ARTICLE 4.1.3.
- 1.8     Should any provision or requirement of one portion of the contract documents conflict with any other portion of the contract documents, unless otherwise provided herein, the conflict will be resolved by reference to the contract documents in the following order of priority:
- A.        Valid change orders control over previous change orders, the agreement, addenda, supplementary conditions, general conditions, specifications, and drawings;
  - B.        The agreement shall control over addenda, supplementary conditions, general conditions, specifications, and drawings;
  - C.        Addenda pertaining to general conditions control over supplementary conditions and general conditions. Addenda pertaining to specifications and drawings control over specifications and drawings;

---

<sup>1</sup> Unless otherwise stated, all references to an ARTICLE refer to the articles of these general conditions.

- D. Supplementary conditions control over general conditions, specifications, and drawings;
  - E. General conditions control over specifications and drawings;
  - F. Specifications control over drawings.
- 1.9 In case of difference between small and large scale drawings, the large scale drawings shall govern. Schedules on any contract drawing shall take precedence over conflicting information on that or any other contract drawing. On any of the drawings where a portion of the work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out shall apply also to all other like portions of the work.
- 1.10 In the event Contractor believes a discrepancy exists in the contract documents, Contractor shall submit the issue to the Project Representative together with Contractor's proposed course of action for performance of the work. Project Representative shall respond within seven (7) working days or advise Contractor that a response cannot be given within that time. If response will take more than seven (7) working days, Project Representative shall take steps to provide a response within a reasonable time. Any action taken by Contractor prior to or without Owner's response shall be at Contractor's own risk and expense.
- 1.11 Words and abbreviations which are not defined in the contract documents, but which have well known technical or trade meanings, shall be construed in accordance with the common meaning established by sound architectural or engineering practice in the State of Alaska.
- 1.12 Drawings, Specifications, other documents prepared for this project, and copies of them that are furnished by Owner and/or Architect or Consultant for this project, whether or not the documents or project are completed, shall be the property of Owner. All rights of use are reserved to Owner for this project and any subsequent project in which Owner participates in construction. Owner specifically relieves Architect or Consultant of any responsibility or liability pertaining to any subsequent use of the documents, in whole or in part, where those documents bear the stamp of a subsequent Architect or Consultant and are used for a subsequent project.
- 1.13 Up to fifteen (15) sets of full-size contract drawings and project manuals will be furnished the Contractor without charge. Additional sets will be furnished on request at the cost of reproduction, plus postage and handling if necessary. Contractor shall check all documents furnished immediately upon receipt and shall promptly notify Owner of any discrepancies.
- 1.14 The contract documents shall not be construed in any way as limiting Contractor's responsibility to perform the work completely, nor shall any prior customs or trade practices be held to constitute a waiver of the requirements of the contract documents or any portion of them.
- 1.15 The individual(s) executing the contract represent that they have the legal authority to execute the contract as or on behalf of Contractor in accordance with the bid instructions and the contract documents.
- 1.16 Execution of the contract by Contractor is a representation that Contractor has visited the site, become familiar with the local conditions under which the work is to be performed, has correlated personal observations with the requirements of the contract documents and enters this contract with knowledge of those conditions.

## **ARTICLE 2 ADMINISTRATION OF THE CONTRACT**

- 2.1 The term "Project Representative" shall mean a person or entity employed by or under contract to Owner to be Owner's on-site designated representative. The term Project Representative shall include the Project Representative's employees.
- 2.2 The terms "Architect" or "Engineer" (hereinafter used interchangeably) shall mean the person or entity contracted by the Kenai Peninsula Borough to provide design services for the project. Architect or Engineer also includes employees of the Architect or Engineer. Architect shall provide professional services during construction as described herein below or as authorized by Owner.
- 2.3 Project Representative will provide administration of this contract and all communication made to Owner, Architect or Engineer by Contractor shall be made through Project Representative.

- 2.4 Project Representative will be Owner's primary representative during construction until final payment has been made and the project has been closed out. Owner's instructions to Contractor shall be made through Project Representative, who shall have authority to act on behalf of Owner to the extent set forth in this contract.
- 2.5 Project Representative shall not have the authority to require additional work, changes in the work, modifications or waivers of the rights, work or duties required by the contract documents or the right to bind Owner to any change in specifications or drawings without the written consent of Owner except as provided herein.
- 2.6 Project Representative may have authority to negotiate minor deviations in the requirements of the contract documents by Field Order. Field Orders are to be incorporated into a subsequent Change Order.
- 2.7 Project Representative will render interpretations of the contract documents necessary for the proper execution or progress of the project. All interpretations and decisions of Project Representative shall be consistent with the intent of the contract documents and shall be in writing.
- 2.8 Matters relating to design will be referred to the design Architect whose decisions will be consistent with the intent of the contract documents and will be final.
- 2.9 Project Representative, Architect, and authorized representatives of Owner shall have access to the project site and to the work at all times and shall be afforded every reasonable facility for ascertaining whether or not the work is in accordance with the requirements and intent of the contract documents.
- 2.10 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be resolved pursuant to ARTICLE 12.
- 2.11 Project Representative shall have the authority: 1) to reject work which does not conform to the contract documents; 2) to require additional inspections or testing of any work during, prior to, or after fabrication, installation, or completion; 3) to specify both remedial work necessary to correct defective work and the time within which such work must be performed.
- 2.12 On the basis of on-site observations and inspections Project Representative will keep Owner informed of the progress of the work, and will endeavor to guard Owner against defects and deficiencies in the work. If Project Representative determines that any construction method, sequence, material, technique, safety precaution, act or omission of Contractor, Contractor's subcontractors, suppliers, or any of their agents, is detrimental to the progress, quality or safety of the work or to Owner's interest, then Project Representative shall inform Owner promptly, and Owner may, among other things, stop the work and order remedial measures. This provision shall not eliminate or reduce the responsibilities or requirements placed upon contractor and/or subcontractors by the contract documents and shall not place any liability upon the owner for action or omission in regard to this provision.
- 2.13 In accordance with the requirements of ARTICLE 8.5, Project Representative will determine amounts owing to Contractor and will recommend that Owner issue payment in the amount determined due.
- 2.14 Project Representative, with the concurrence of Owner, will determine the dates of Substantial Completion and Final Completion. The Architect will receive and forward to Owner for Owner's review, written warranties and related documents required by the contract and assembled by Contractor.
- 2.15 Project Representative's duties, responsibilities, and limitations of authority will not be modified without written consent of Owner and Project Representative.

### **ARTICLE 3 OWNER GENERAL RIGHTS AND DUTIES**

- 3.1 At Owner's option, Owner may undertake any or all tasks of Project Representative described in ARTICLE 2.
- 3.2 Owner's directions to Contractor will be made in writing either directly or through Project Representative in accordance with ARTICLE 2. No verbal representation shall be binding upon any party unless confirmed in writing.

- 3.3 Owner shall have the right to perform work related to the project under separate contract(s) in accordance with the provisions of ARTICLE 6.
- 3.4 Owner shall have the right to issue change orders from time to time which may alter the scope of work required by the contract documents. All change orders will be subject to provisions of ARTICLE 9.
- 3.5 Owner will have the authority to reject work which does not conform to the requirements of the contract documents and to require such remedial work at no charge or expense to Owner as is necessary to correct the defective work. Where defective work is being performed by Contractor and Contractor fails to correct the defective work within a reasonable period of time as set out in ARTICLE 10, or repeatedly fails to carry out the work in accordance with the contract documents, Owner shall have the authority to order an immediate halt to all defective work. Any losses suffered by Contractor as a result of the halt shall be borne by Contractor without recourse to Owner. Issuance of a stop-work order shall not be construed as constituting a breach of the agreement nor authorize Contractor to refuse to perform other portions of the work which Owner has not halted.
- 3.6 Owner shall have the right to terminate the contract or suspend performance of the contract as set out in these general conditions or other contract documents.
- 3.7 Owner shall promptly pay Contractor all sums properly due as provided by ARTICLE 8. If Owner fails to issue payment for a period of forty-five (45) days after the certificate of payment has been approved by Project Representative, without a written statement indicating why payment is being withheld, then Contractor may terminate the contract upon seven (7) days written notice to Owner and may recover from Owner payment for all work executed and for any proven losses sustained upon any materials, equipment and tools, including a reasonable profit and overhead.
- 3.8 Owner and Contractor warrant that neither party will maintain an action against the other for punitive or exemplary damages.

#### **ARTICLE 4 CONTRACTOR'S GENERAL RIGHTS AND DUTIES**

##### **4.1 EXAMINATION OF SITE AND CONTRACT DOCUMENTS**

- 4.1.1 The term "Contractor" means the person or entity identified in the Agreement which has contracted with Owner to perform the work of the contract. This definition includes a responsible officer of Contractor's organization or its authorized representative who shall be made known to Owner.
- 4.1.2 Contractor represents by execution of the Agreement that Contractor has carefully examined the contract documents and the site upon which the work is to be performed and has developed familiarity with the nature, extent, site access, and risks involved in the work and with all local conditions and applicable statutes, ordinances and regulations that may affect the performance of the work. Contractor assumes full responsibility for having correlated Contractor's study of the contract documents and observation of the site. Contractor represents that Contractor has studied all available surveys and investigation reports of subsoil and latent physical conditions of the site and has made such additional surveys and investigations as Contractor deemed necessary for the performance of the work at the contract price, within the time specified and in accordance with the requirements of the contract documents.
- 4.1.3 Contractor shall not begin work until given a Notice to Proceed, which will be issued as promptly as possible after the Agreement has been executed by all parties. If Owner is required to delay issuance of a Notice to Proceed for more than five (5) working days because of fault of Contractor or other reasons which Owner deems sufficient, then Contractor shall be notified in writing of the delay and when issuance of the Notice to Proceed is anticipated.
- 4.1.4 Before commencing any part of the work, and prior to undertaking each subsequent phase of the work, Contractor shall carefully study the plans and specifications and check and verify all previous work and pertinent dimensions, figures and amounts shown in them and shall make all applicable field measurements. Contractor shall at once report in writing to Owner any apparent conflict, ambiguity, discrepancy, error or other omissions which Contractor may discover. Contractor shall be liable to Owner for failure to notify Owner of any conflict, ambiguity, discrepancy, error or other omissions which Contractor discovered, but failed to report to Owner and shall be responsible for providing a remedy.

- 4.1.5 Contractor shall lay out the work from established base lines and bench marks indicated on the drawings and shall be responsible for all measurements in connection therewith. Contractor will be held responsible for the execution of the work to such lines and grades. It shall be the responsibility of Contractor to maintain, preserve, or replace all stakes and other marks.
- 4.1.6 Drawings showing location of equipment, piping, etc., are diagrammatic and job conditions will not always permit installation in the location shown. If a situation occurs which may require relocation of an item or system which substantially differs from the location called for in the contract documents, it shall be brought to Owner's attention immediately and the relocation determined with the concurrence of Architect or Engineer. If Contractor relocates such items without approval, Contractor will be responsible for any cost or expense for removal or further relocation necessitated by installation without approval.

## **4.2 SUBMITTALS**

- 4.2.1 Within 20 days after the effective date of the notice to proceed and prior to commencement of work, Contractor shall submit to Owner the construction progress schedule and schedule of values required in Articles 4.2.2, 4.2.3 and 4.2.4. The schedule of values and progress schedule must be acceptable to owner and provide reasonable divisions of contract work with corresponding payment. No payment will be made under this contract prior to completion of this requirement.
- 4.2.2 In accordance with the Division 1 requirements governing submittals as provided in the contract specifications, Contractor shall prepare and submit to Owner a detailed progress schedule for the work which reveals and identifies the critical path of progress, which is consistent with the work and time required by the contract, and which shall provide for the most expeditious and practicable execution of the work. Float time between work items is part of the project and not property of the Contractor. Float time is defined as the amount of time that spans from completion of one previously scheduled activity and extends to the point at which the next scheduled activity is set to begin.
- 4.2.3 Contractor shall also provide Owner with a proposed schedule of values upon submittal of a detailed progress schedule for the work. The schedule of values shall be allocated to various portions of the work and be prepared in such a form and supported by such data to substantiate its accuracy as reasonably required by Owner. Each item of work shall include all applicable profit and overhead. This schedule of values, unless objected to by owner shall be the basis for progress payments made to Contractor and shall include a specific lump sum amount for "Final Payment." This line item shall be in conformance with guidelines specified in ARTICLE 8. Contractor, at the request of Owner, shall amend the progress schedule and the schedule of values as the work progresses.
- 4.2.4 The schedule of values must show a complete breakdown of all phases of the work required by the contract documents. Payment will be in accordance with Article 8. Pay requests, schedules of value and progress schedules must correspond.
- 4.2.5 Contractor shall submit for Architect's and Owner's approval all product data required by the contract documents in conformance with the dates specified in the detailed progress schedule. Such data include illustrations, standards, schedules, performance charts, instructions, brochures, diagrams, or other information necessary to assist Architect in determining whether a proposed product meets the intent of the contract documents.
- 4.2.6 Contractor shall also submit physical samples of materials, equipment or workmanship where required by the contract documents. After approval by Owner and Architect, the sample shall be established as the minimum standard of work, material, equipment or other quality which will be acceptable for work of which the sample is representative.
- 4.2.7 Submittal of shop drawings by contractor constitutes a representation by contractor that the submittal and work, or products required or to be used in accordance with that submittal, will meet or exceed the criteria and conditions of the contract documents and that performance of the work identified in those submittals will meet the progress schedule.
- 4.2.8 Before initiating any work for which shop drawings are required, Contractor shall obtain Architect's approval of the shop drawings, which include drawings, diagrams, schedules and other data specially prepared by

Contractor, a subcontractor, a manufacturer, a supplier or distributor to illustrate in detail that portion of the work. Contractor shall review, approve, and submit all shop drawings, whether prepared by himself/herself or subcontractor or supplier. It shall be the duty of Contractor to provide a whole or complete system and to coordinate all work depicted by a particular shop drawing with the work required by other shop drawings for that portion of the work or for related or adjacent work.

- 4.2.9 Unless otherwise instructed, Contractor shall provide all submittals and correspondence to the Project Representative. At the direction of the Project Representative, Architect will review Contractor's submittals only for conformance with the design concept of the work and the information given in the contract documents. Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Architect will return reviewed submittals to Contractor with written comments and forward one set to Project Representative with reasonable promptness so as to cause no delay. A minimum of five (5) sets of submittals shall be required.
- 4.2.10 Should Architect reject any proposed shop drawings, product data or sample, Contractor shall resubmit revised drawings, samples or product data and draw Architect's attention to any deviation or revisions other than those requested by Architect.
- 4.2.11 All of Contractor's submittals shall be made in conformance with the dates specified in the detailed progress schedule with reasonable promptness and in such sequence as to cause no delay in the work of Owner or any separate contractor.

### **4.3 SAFETY AND CONTROL OF SITE**

- 4.3.1 Contractor is deemed to be in physical control of the work site. Contractor shall confine Contractor's operations at the site to those areas described in the contract documents or permitted by applicable statutes, ordinances or permits.
- 4.3.2 Contractor shall not unreasonably encumber the site with materials, equipment or ancillary construction. Contractor shall be responsible for eliminating or minimizing to the extent reasonably possible, public hazards and inconveniences which might result from this work.
- 4.3.3 Contractor shall at all times keep the premises free from accumulation of excess snow, waste materials or rubbish and shall keep adjacent public road clear of mud and dust caused by Contractor's activities. At the completion of the work, Contractor shall remove all waste materials and rubbish from the project as well as Contractor's tools, equipment and surplus materials. The removal and disposal of waste materials, rubbish, or other material, shall be accomplished in accordance with all local, state and federal requirements.
- 4.3.4 Contractor shall be responsible for initiating, maintaining and supervising all necessary safety precautions in connection with this work and shall be responsible for ascertaining and adhering to all applicable federal, state, and local standards, laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.
- 4.3.5 Contractor's duty to maintain a safe and secure project site shall include all precautions necessary to assure the safety and protection against injury and damage, of all employees engaged in the work and any other person who may be affected by the work including Owner's agents and employees; Contractor's agents and employees; and members of the general public. Contractor shall assure the safety and protection of all work, materials and equipment which may be upon the site; utilities and other property of Owner including portions of structures and utilities not designated for removal or relocation, trees, shrubs, lawns, walks, pavements and roadways. Contractor duties include but are not limited to protection of project site from vandalism. Such precautions shall further include but not be limited to protection from dangers from hazardous materials.
- 4.3.6 Contractor shall take all necessary measures to prevent members of the general public from entering upon the site without the permission of Owner or Contractor.
- 4.3.7 Contractor shall comply with all OSHA requirements, give all safety notices, erect and maintain all reasonable safeguard notices and barriers, including danger signs and fences which may be required to protect the site and limit access to it.

- 4.3.8 In the event of an emergency, the Contractor will take all means necessary to minimize all damage to or exposure from effects of a catastrophic event. In such case, the Contractor may consult with Owner or seek Owner's assistance. The responsibility for protection of the site, work, and all material remains with the Contractor.
- 4.3.9 Contractor shall designate a person in Contractor's employ at the site to be primarily responsible for the prevention of accidents, identification of all applicable safety standards, statutes and regulations, including but not limited to those addressing hazardous material, and full compliance therewith. This person shall be Contractor's Superintendent unless otherwise designated by Contractor in writing to Owner.
- 4.3.10 Should Project Representative or other representative of Owner ascertain that a safety danger exists, Project Representative or Owner may order an immediate cessation of all dangerous activity and a correction of any safety hazard. Written notice of the order to stop work or to correct the safety hazard shall be made to Contractor as soon as practicable. Contractor shall have no recourse against Owner for any alleged losses or delays arising from this section unless the order to stop work or correct safety deficiency is wholly without basis.
- 4.3.11 Should Contractor elect to utilize explosives or other hazardous materials or equipment, or should Contractor be required to do so for the execution of the work, Contractor shall first give jurisdictional authorities and Owner notice of the intention to utilize hazardous materials, explosives or equipment at a particular time and date. Contractor shall use the utmost care in utilizing such materials and shall use only properly qualified and licensed personnel.
- 4.3.12 Contractor shall correct any damage to the property of Owner or other parties which arises out of the activities or omissions of Contractor, Contractor's agents, subcontractors, employees, personnel or suppliers. Contractor shall commence remedial activities within seven (7) days from the date of the damage. If Contractor fails to do so, Owner or the affected party may utilize his own forces to correct or replace the damaged property and Contractor shall promptly reimburse Owner or the affected party for all losses and costs thereupon. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor.

#### **4.4 SUPERVISION AND QUALITY OF THE WORK**

- 4.4.1 Contractor shall supervise and direct the work using the best skill and attention. Contractor is responsible for, and agrees to comply with all applicable local, state and federal ordinances, laws, regulations and statutes. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for the schedule and coordination of all portions of the work to be performed under the contract. Contractor shall also be required to coordinate the work with that of any other contractor working on the project so as to minimize delay, inconvenience, and expense to both. Where identified in writing by Owner at any time, Contractor shall be required to coordinate the work with any partial use of the site that Owner deems necessary.
- 4.4.2 All materials and equipment shall be applied, installed, connected, erected, used, cleaned, prepared or conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processor except as otherwise provided in the plans and specifications.
- 4.4.3 Contractor shall keep on the job site at all times during work progress, a competent resident superintendent capable of reading and thoroughly understanding the plans and specifications. The superintendent will be Contractor's representative at the site and all communications given to the superintendent shall be as binding as if given to Contractor directly. In the event Contractor decides to replace the superintendent, Contractor shall submit to Owner a written notice including the proposed new superintendent's qualifications. The superintendent shall not be replaced without this written notice and a statement of non-objection by the Owner.
- 4.4.4 Contractor shall provide sufficient, competent, and suitable qualified personnel to survey and lay out the work and to perform all construction required by the contract documents. Contractor is responsible for maintaining good discipline and order at the job site at all times and shall not employ any unfit person or anyone not skilled in the task assigned to that person.

- 4.4.5 Contractor shall be fully responsible to Owner for the acts and omissions of Contractor's employees and agents, Contractor's subcontractors and their employees and agents, and any other persons performing any of the work for the benefit of Contractor.
- 4.4.6 Contractor shall not permit the possession or use of alcohol or controlled substances on the site, and shall remove from the site any person who possesses, uses, or is under the influence of alcohol or controlled substances. Contractor shall not permit the smoking of tobacco, marijuana or e-cigarettes in any enclosed space. Contractor shall require all Contractor's agents, subcontractors, employees or suppliers who perform work on site to sign a statement that they have been informed and will abide by the above policy. A copy of all such statements shall be kept at the job site throughout the duration of Contractor's work.
- 4.4.7 Contractor warrants to Owner that all work will be free from faults and defects and meeting or exceeding the requirements of the contract documents and all local, state, and federal legal requirements. All work not so conforming to these standards will be considered defective, and Owner may require its correction.

#### **4.5 DIVISION OF THE WORK**

- 4.5.1 The division of the work into various specialties and divisions in the contract specifications and drawings shall not bind Contractor in apportioning the work among various subcontractors, specialty contractors or workers, and Contractor's own employees.

#### **4.6 TITLE 36 AND OTHER STATUTORY REQUIREMENTS**

- 4.6.1 Contractor shall give and post all notices and comply with all federal, state, and local laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the performance of the work, and shall notify Owner in writing if the drawings and specifications or the contract documents are at variance therewith. If Contractor knows or should know that Contractor is performing work contrary to such legal requirements without giving written notice to Owner in time for Owner to give a stop work order, the Contractor shall bear all costs to remedy that work and to bring it into conformance with the applicable requirements. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor. This requirement does not lessen or alter the requirement for indemnification stated in ARTICLE 4.13.
- 4.6.2 Contractor and subcontractors shall strictly comply with all requirements of Title 8, Chapter 30 of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract.
- 4.6.3 Contractor or subcontractors of the contractor shall pay all employees unconditionally as required by AS 36.05.040 and any other applicable laws or regulations. Wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the Contractor or subcontractors and laborers, mechanics, or field surveyors. The wages are determined for the region in which the work is done and the rates are issued by the Alaska State Department of Labor (see attached Title 36 wage schedule). The scale of wages to be paid shall be posted by Contractor in a prominent and easily accessible place at the site of the work. If it is found that a laborer, mechanic or field surveyor employed by the Contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by this contract, Owner may, on written notice to Contractor hold Contractor in immediate default and terminate Contractor's right to proceed with the work or that part of the work for which there is a failure to pay the required wages, and Owner may prosecute the remaining work to completion by contract or otherwise, holding Contractor and Contractor's sureties liable for any costs in excess of the contract price. In the event Owner permits Contractor to pursue further work under the contract, Owner shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the Contractor or subcontractors the difference between the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work and the rates of wages in fact received by laborers, mechanics, or field surveyors.
- 4.6.4 A copy of certified payrolls shall be provided to the Project Representative with each Progress Payment Request.

## **4.7 PROJECT RECORDS**

- 4.7.1 Contractor shall maintain at the project site copies of plans and technical specifications, approved shop drawings and manufacturers' information sheets, and other contractor documents which are necessary for the expeditious and correct execution of the work.
- 4.7.2 Contractor shall maintain at the project site a complete daily job report showing job conditions, work activities started, in progress, interrupted and completed; work force, including identification and number of Contractor's employees and subcontractors by craft; receipt and disposition of materials and equipment; tests performed, visiting personnel and any accidents on a particular day. Owner shall have access to the daily report at all times. A copy of each daily report shall be provided to Project Representative at the end of each week.
- 4.7.3 Contractor shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the job site in good order and annotated to show all changes made during the construction process. These shall be available to Owner during construction and turned over to Owner prior to final completion of the work.

## **4.8 ALLOWANCES**

- 4.8.1 Contractor shall include in the contract sum all allowances stated in the specifications or plans, and all items covered by these allowances shall be supplied in such amounts, or by such a person, as Owner may direct. The allowance shall include the cost to Contractor, less applicable trade discounts, of materials and equipment required by the allowance; delivery at the site, applicable taxes; Contractor's cost for unloading and handling on the site, for labor, installation, overhead, profit and other expenses incurred by Contractor. Whenever the cost of the allowed item exceeds or is less than the allowance, the contract sum shall be adjusted equitably by change order.

## **4.9 NONDISCRIMINATION**

- 4.9.1 Contractor must comply with all federal and state laws, rules, regulations and orders, and all local ordinances, regulations and rules concerning wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, and similar provisions governing employment of individuals.
- 4.9.2 Contractor will not discriminate against any employee or applicant for employment or refuse employment to a person, or bar a person from employment, or discriminate against a person in compensation or in a term, condition, or privilege of employment because of the person's race, religion, color, or national origin, or because of the person's age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, or parenthood when the reasonable demands of the position do not require distinction on the basis of age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, parenthood, or political affiliation. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Contractor further agrees to insert this provision in all subcontracts hereunder and to require the subcontractors to insert this provision in their subcontracts.

Notwithstanding the prohibition against employment discrimination on the basis of marital status or parenthood stated above, an employer may, without violating this provision, provide greater health and retirement benefits to employees who have a spouse or dependent children than are provided to other employees.

- 4.9.3 Contractor shall state, in all solicitations or advertisements for employees to work on contract jobs, that all qualified applicants will receive consideration for employment in accordance with the above referenced nondiscrimination clause.
- 4.9.4 Contractor shall comply with the reporting requirements which the State of Alaska may establish by regulation.
- 4.9.5 Contractor shall include the provisions of these paragraphs in this section in every subcontract or purchase order under this contract so as to be binding upon every such subcontractor or vendor of Contractor under this contract.

#### **4.10 TAXES**

- 4.10.1 Contractor shall pay all sales, consumer, use and other taxes for the work or portions thereof provided by Contractor which are legally enacted at the time bids are received, whether or not yet effective.
- 4.10.2 Contractor shall comply with Owner's requirements for payment of taxes. This contract is specifically subject to the provisions of Section 5.28.140 of the Kenai Peninsula Borough Code of Ordinances, as it now stands or as it may be amended, including but not limited to termination of the contract for non-compliance. If the violation arises from failure to file or remit sales taxes, no payment will be made to Contractor until all filings have been made and all amounts due are paid.

#### **4.11 PERMITS, FEES, AND NOTICES**

- 4.11.1 Unless otherwise provided in the contract documents, Owner shall secure and pay for the building permit. Contractor shall secure and pay for all other legally required permits and government fees, licenses and inspections necessary for the proper execution and completion of the work. These are customarily secured after execution of the contract. These costs are part of the contract price. This provision does not lessen the requirements set out in ARTICLE 1.4.

#### **4.12 ROYALTIES AND PATENTS**

- 4.12.1 Contractor shall pay for all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and shall save Owner harmless from loss on account thereof.

#### **4.13 INDEMNIFICATION**

- 4.13.1 The contractor shall indemnify, hold harmless, and defend the borough at its own expense from and against any and all claims, losses, damages or expenses, including reasonable attorney's fees, of, or liability for, any wrongful or negligent acts, errors, or omissions of the contractor, its officers, agents or employees, or any subcontractor under this contract. The contractor shall not be required to defend or indemnify the borough for any claims of, or liability for, any wrongful or negligent act, error, or omission solely due to the independent negligence of the borough. If there is a claim of, or liability for, the joint negligence of the contractor and the independent negligence of the borough, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. Apportionment shall be determined upon final determination of percentage of fault. If any such determination is by settlement, the percentage of fault attributed to each party for purposes of this indemnification provision shall only be binding upon the parties included in the settlement agreement. "Contractor" and "borough" as used in this article include the employees, agents, officers, directors, and other contractors who are directly responsible, respectively, to each. The term "independent negligence of the borough" is negligence other than in the borough's selection, administration, monitoring, or controlling of the contractor and in approving or accepting the contractor's work.

### **ARTICLE 5 SUBCONTRACTORS AND SUPPLIERS**

#### **5.1 DEFINITIONS AND RESPONSIBILITIES**

- 5.1.1 A subcontractor is a person or entity having a direct contractual relationship with Contractor, or with one of Contractor's subcontractors, to perform any of the work at the site. A supplier is any manufacturer or person or firm providing materials, equipment or assemblies to Contractor or to one of the subcontractors for inclusion in this project.
- 5.1.2 All contracts between Contractor, subcontractors and suppliers (whether or not in privity with Contractor) shall be in accordance with the terms of this contract and shall incorporate the General Conditions of this contract. Contractor shall include in such contracts, and require its inclusion in any subcontracts, a provision holding any subcontractor or supplier (whether or not in privity with Contractor) directly accountable to Owner for work which fails to meet the requirements of the contract documents, or which prevents Contractor or any subcontractor from performing work. This direct accountability to the Owner shall be in addition to Contractor's liability for any such failure.

- 5.1.3 The provisions in this ARTICLE shall not be construed as creating a right of recourse, or any direct contractual relationship, between Owner or Owner's agents and any subcontractor, supplier, or manufacturer (whether or not in privity with Contractor).
- 5.1.4 Contractor shall make all necessary copies of these contract documents available to Owner and to each subcontractor and shall require each subcontractor to make copies of these contract documents available to each of Contractor's subcontractors, if any.
- 5.1.5 Contractor shall be fully responsible for enforcing discipline among subcontractors, their employees and their subcontractors, and for insuring that each subcontractor performs the work in accordance with the contract documents and all safety regulations.
- 5.1.6 Contractor shall have the discretion to require subcontractor(s) to provide payment or performance bonds for work of the subcontractor(s).

## **5.2 AWARDS TO SUBCONTRACTORS AND SUPPLIERS**

- 5.2.1 At Owner's request Contractor shall submit to Owner a list of all principal subcontractors and material suppliers and shall not contract with any proposed person or organization to whom Owner voices a reasonable objection. This provision applies to substitution of subcontractors or suppliers subsequent to Owner's initial objection to a proposed person or entity. Such list shall be submitted in accordance with Division 1 requirements as provided in the contract specifications.
- 5.2.2 Rejection of a proposed subcontractor or material supplier shall not entitle Contractor to any increase in the contract sum or time.
- 5.2.3 At Owner's request Contractor shall submit to Owner a copy of any subcontract and any purchase orders for materials and equipment prior to purchase of such items.

## **5.3 CONTRACTOR PAYMENTS TO SUBCONTRACTORS AND SUPPLIERS**

- 5.3.1 Recognizing the importance of maintaining the integrity of a public contract, Contractor warrants that Contractor will pay all subcontractors and material suppliers at least monthly upon approval of the subcontractors' and materials suppliers' billing, for all apparently acceptable work performed on the site during the preceding month and for all apparently acceptable material incorporated into the project or delivered and properly stored at the site during any month for which Contractor has received payment from Owner.
- 5.3.2 In furtherance of Contractor's warranty under this ARTICLE and ARTICLE 8, Owner, may require Contractor to declare Contractor's status of accounts with any or all the subcontractors and suppliers. A proof of payment to subcontractors and suppliers shall be made in a form acceptable to Owner. If Contractor breaches this warranty and fails to pay each subcontractor and materials supplier within 45 days after a monthly billing has been presented, then Owner reserves the right to withhold sufficient sums from Progress Payments due to Contractor and to issue payment to the subcontractors or material suppliers directly. This ARTICLE shall not be construed as creating a right in the subcontractors or material suppliers to have direct recourse against Owner for payment. Contractor expressly agrees that Owner will not be liable for any exercise of Owner's discretionary right under this section, and Contractor agrees to release and indemnify Owner for any claims arising therefrom, either by Contractor directly or by any subcontractor or material supplier. Likewise, this ARTICLE shall not be construed as creating a right in Contractor's surety or any other subrogated party to have direct recourse against Owner for failure to withhold sums pursuant to this section.

## **ARTICLE 6 SEPARATE CONTRACTS**

- 6.1 Owner has the right to award separate contracts for work on the project that is not included in this contract.
- 6.2 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 contract.

- 6.3 Contractor shall afford other contractors and Owner's own forces reasonable opportunity for the introduction and storage of materials and equipment and for the execution of their work and shall properly connect and coordinate Contractor's work with theirs as required by the contract documents.
- 6.4 Any costs caused by defective or ill-timed work under separate contracts shall be borne by the party responsible thereof and shall be paid promptly.
- 6.5 If Contractor alleges that delay or additional costs were caused by the letting of separate contracts or by work performed by Owner's own forces, then Contractor may request an equitable adjustment by change order as provided below.
- 6.6 If any part of Contractor's work depends upon work performed by Owner or any separate contractor, prior to proceeding with the work, Contractor is required to report to Owner any apparent discrepancies, defects or delays in the other work which impede proper execution of the work required by this contract. If Contractor fails to report such unsuitable work by another contractor to Owner, then Contractor shall be deemed to have accepted the unsuitable work and any liability for all deficiencies, damages and costs which arise as a result of the defective work or of Contractor's use or covering of the unsuitable work.
- 6.7 Should Contractor or any subcontractor delay or cause damage to the work or property of any other contractor or person, Contractor shall repair the damage or settle the claim and shall further, to the extent allowed by law, indemnify, defend, and hold Owner harmless from any and all claims, costs, expenses, injury, damages, or loss of any kind, including attorneys' fees, court costs, or arbitration costs, which arise out of such delay or damage.
- 6.8 Should a dispute arise between Contractor and separate contractors as to the responsibility for completing, finishing or cleaning up particular work or a portion of the work, Owner may complete, finish or clean up the disputed portion and apportion the cost among Contractors responsible as Owner shall determine to be equitable.

## **ARTICLE 7 BONDS AND INSURANCE**

### **7.1 PERFORMANCE AND PAYMENT BONDS**

- 7.1.1 For contracts with a contract sum of one hundred thousand dollars (\$100,000) or greater, or as otherwise specified in the request for bid, Contractor shall provide as part of the basic contract sum, a performance bond and a payment bond, each in the amount of 100% of the contract amount, prior to Owner's execution of the contract. Contractor shall have no recourse of any kind against Owner, if Owner declines to award a contract due to Contractor's failure to provide the required bonds. These bonds, in whatever amount required by the specific contract, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25 and shall comply with all requirements for payment and submission of claims as provided by that chapter.
- 7.1.2 All bonds shall name Owner as the beneficial party and shall protect Owner for a period of at least one year subsequent to the date of final payment upon this contract. All bonds shall be executed upon a form acceptable to Owner and by a surety company licensed to do business within the State of Alaska and acceptable to Owner. The form of the bond shall provide that Owner shall have at least thirty (30) days prior notice of any lapse in bond coverage. The bond payment shall be applicable to all subcontractors or material suppliers (whether or not in privity with Contractor) who might attempt to assert a claim against Owner.
- 7.1.3 Owner may inform the surety as to the general progress and status of the work. A copy of all communications with the surety company shall be provided promptly to Contractor upon request.
- 7.1.4 In the event Contractor refuses, or is unable to make payments to laborers, subcontractors or material suppliers, or to complete the work, or to correct defective work, within the times provided by this contract, Owner may elect to call upon Contractor's surety to rectify Contractor's default. Contractor shall first be given seven (7) calendar days written notice (effective when mailed) of Owner's intentions to call upon the surety company and Owner shall specify to Contractor the basis for the proposed course of action. If Contractor fails to correct the default within the time provided, Owner shall promptly call upon the surety.

- 7.1.5 Prior to final payment, Contractor shall provide written consent of each affected surety releasing Owner from any further claims arising from payment to Contractor and obligating the surety company to rectify any default, nonpayment, defective work, error, omission or deficiency of Contractor.
- 7.1.6 Contractor and Owner expressly agree that Owner shall be entitled to retain from payments to Contractor amounts in excess of normal retainage if these additional amounts may be necessary to indemnify Contractor's surety for any payment or corrective work which the surety might be required to undertake. This additional retainage will be made only upon written directive by Contractor's surety specifying the reason for retaining extra amounts, the amounts to be retained and agreement of the surety to reimburse Owner for any interest which may be due Contractor under the provisions of the Alaska Statutes.

## **7.2 CONTRACTOR'S INSURANCE**

- 7.2.1 The services to be rendered under this contract are those of an independent Contractor.
- 7.2.2 Contractor and all subcontractors, if any, shall be responsible for the purchase and maintenance of all insurance required by law and at a minimum purchase the insurance coverage as specified in ARTICLE 7.2.5 and 7.2.6 below, and any other insurance coverage as may be specified in ARTICLE 7.2.11 SUPPLEMENTARY GENERAL CONDITIONS OF INSURANCE, if attached and forming a part of this contract.
- 7.2.3 This insurance coverage required by ARTICLE 7.2.5 and 7.2.6, and ARTICLE 7.2.11 if attached, shall be in acceptable form, and for the amounts specified by the Kenai Peninsula Borough and School District, or as required by law, whichever is greater.
- 7.2.4 The insurance policies shall remain in force for the life of the contract and shall be a part of the contract price.
- 7.2.5 Commercial general liability with minimum coverage of \$1,000,000 and automobile liability insurance with minimum coverage of \$1,000,000 combined single limit bodily injury and property damage per occurrence. This insurance shall be primary and exclusive of any other insurance carried by the Kenai Peninsula Borough and School District. The commercial general liability insurance shall be without limitation on the time within which the resulting loss, damage, or injury is actually sustained.
- 7.2.6 Per Alaska State Statutes, Worker's Compensation and Employers Liability Insurance shall be provided for all employees who are performing work under this contract.
- 7.2.7 Certificate(s) of Insurance shall be provided by Contractor and all subcontractors, or their Insurance Companies and/or their Agents, naming the Kenai Peninsula Borough and School District or other appropriate Borough entity as an additional insured for the work specified in this contract. The certificates of insurance must reference the specific contract by name and project number. Certificates of Insurance, acceptable in form and content, will be delivered to Owner at the address designated for legal service in the agreement, at or prior to presentation of the contract for execution by owner.
- 7.2.8 There shall be no cancellation or material change of the insurance coverage, or intent not to renew the insurance coverages as specified in this contract, without thirty (30) days prior written notice to the Kenai Peninsula Borough. Notice of cancellation, material change in coverage, or intent not to renew will be delivered to the address designated for legal notice in the agreement.
- 7.2.9 Upon renewal or change in policies during the contract, Certificates of Insurance shall be delivered to the address designated for legal notice in the agreement.
- 7.2.10 Owner shall have the option to purchase and maintain such insurance as will protect Owner against property losses or liability claims, which may arise from operations under the contract. Insurance providing coverage against fire and extended coverage perils, may, at Owner option, provide coverage to the full insurable value of the project and insure the interests of Contractor and all subcontractors as their interests may appear. Any recovery for loss insured pursuant to this General Condition is to be adjusted to Owner and made payable to Owner as trustee for the insured, as their interests may appear. This section does not modify the contractor or subcontractors' responsibility to provide insurance as required in ARTICLE 7.

- 7.2.11 Additional insurance requirements may be added in supplementals as Supplementary General Conditions of Insurance.

## **ARTICLE 8 MEASUREMENT, PAYMENT AND COMPLETION**

### **8.1 SCOPE OF PAYMENT**

- 8.1.1 Unless altered by change order, Contractor shall be paid only that sum set forth in the agreement between Owner and Contractor as Contractor's compensation for performance of all work required by the contract documents.

### **8.2 LUMP SUM PAY ITEMS**

- 8.2.1 Each bid item is characterized as either a lump sum item or a unit price item in the bid documents. Where the item is bid at a lump sum price, no additional compensation shall be paid to Contractor for additional work required because Contractor failed to include items or quantities in Contractor's estimate or a subcontractor's estimate, or failed to utilize proper construction means, methods, procedures or sequence or by virtue of any decision of Contractor.
- 8.2.2 Contractor is required to provide and pay for all requirements necessary for the proper execution and completion of the contract unless specifically excluded by the contract documents. The costs are part of the contract price. The requirements include but are not limited to the requirements stated in ARTICLE 1.4.
- 8.2.3 All materials and equipment incorporated in the work shall be new except as otherwise provided in the contract documents. All materials and equipment shall meet or exceed the requirements of the plans and specifications and Contractor shall furnish, if requested, satisfactory evidence as to the source, kind and quality of any materials and equipment.

### **8.3 UNIT COST ITEMS**

- 8.3.1 Quantities appearing in the bid schedule are approximate and are prepared for comparison of bids. Payment to Contractor will be for actual quantities of work performed and materials furnished in accordance with the contract documents. Scheduled quantities of work and materials may be increased, decreased or eliminated as provided herein.

### **8.4 APPLICATION FOR PAYMENT**

- 8.4.1 Applications for payment shall be based on Contractor's submitted schedule of values, as approved by Owner per Section 4.2. Schedule of values shall be prepared in such form and supported by such data as may be required by Owner to substantiate its accuracy prior to Contractor's first application for payment.
- 8.4.2 The schedule of values shall include quantities of work, unit prices and other items comprising the contract price. It shall subdivide the work into each component part in sufficient detail to serve as the basis for progress payments during construction.
- 8.4.3 With each subsequent application for progress payment, Contractor shall provide a schedule of values to Owner showing all work which has been performed to date together with the value thereof, and the percentage of work completed.

### **8.5 PROGRESS PAYMENTS**

- 8.5.1 Progress Payments shall be made monthly, based upon the amount of apparently acceptable work performed at the site and apparently acceptable materials purchased for the project and properly stored at the site during the previous month. Disbursement of progress payments will not effect a transfer of the risk of loss from the Contractor to the Owner for invoiced equipment or material. The risk of loss of the work and all material and equipment not yet incorporated in the work is the liability of the Contractor until substantial or final completion, whichever is earlier.
- 8.5.2 The value of work performed and materials stored shall be set forth in Contractor's revised schedule of values. If requested by Owner, Contractor shall promptly provide Owner any additional information necessary to

ascertain the value of the work performed or the cost of materials stored at the site during the previous month. Each updated Schedule of Values shall be in the form of a notarized affidavit. Proof of certified payroll shall be provided per ARTICLE 4.

- 8.5.3 By application for payment, Contractor warrants and guarantees to Owner that title to all work, materials, and equipment for which payment is requested will pass to Owner either by incorporation in the construction and after substantial completion or upon receipt of payment, whichever occurs later, that such title will be clear of all liens, claims, security interests, and other encumbrances, except for liens to be released later prior to final payment and specifically identified on the application for payment, and that all such work, materials, and equipment are of acceptable quality.
- 8.5.4 Each application for payment shall be made no more frequently than once per month unless directed otherwise for work performed during the preceding month. Progress Payment requests shall be submitted to Project Representative for analysis and recommendation to Owner.
- 8.5.5 Project Representative will review Contractor's application for payment within seven (7) working days after receipt and if Project Representative ascertains that the amounts set forth therein are properly due and owing to Contractor, then Project Representative shall issue a Certificate of Payment to Owner. If Project Representative determines that only a portion of the sum requested is then properly due and owing to Contractor, then Project Representative may issue a Certificate of Payment in a lesser amount or may reject the application altogether. Project Representative will notify in writing both Contractor and Owner of the reasons for reduction or rejection of any application for Progress Payment.
- 8.5.6 Project Representative's issuance of a Certificate of Payment constitutes a representation that the work has progressed to the point indicated and that to the best of Project Representative's professional knowledge and information, Contractor is entitled to payment in the amounts certified.

## **8.6 RETAINAGE**

- 8.6.1 After receipt from Project Representative of the Certificate for Payment, Owner shall make payment to Contractor within thirty (30) days. Owner shall have the option to retain up to 10% of the full amount of the Certificate for Payment plus lump sum amounts for material and equipment not properly stored, or subject to damage prior to use. Amounts retained by Owner may be held by Owner until project completion. If the project involves grant money or the borough has entered into a written contract with the state to provide state funds, payment will be made in accordance with AS 36.90.200-270.
- 8.6.2 Owner may withhold additional sums of money from progress payments in an amount sufficient to safeguard and protect Owner against any apparently meritorious claims against Contractor by any party other than Owner, and for any work which Owner ascertains to be defective or not meeting the requirements of the contract documents.

## **8.7 CONDITIONS OF PAYMENT**

- 8.7.1 Project Representative may refuse to approve all or any part of any request for progress payment if, in Project Representative's opinion, it would be incorrect to make the representation to Owner set out in ARTICLE 8. Project Representative may also refuse to approve all or any part of any request for progress payment, if subsequently discovered evidence or the results of subsequent inspections or tests nullify any payment previously approved.
- 8.7.2 Owner may withhold payment to the extent necessary to protect Owner from loss resulting from:
  - A. Defective or damaged work;
  - B. Claims or liens which have been filed or may be reasonably expected;
  - C. Contract price reduction by modifications or change orders;
  - D. Owner cost to correct or complete defective work;
  - E. Unsatisfactory prosecution of the work by Contractor, including but not limited to failure to furnish adequate submittals or to clean up the work or site;
  - F. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;
  - G. Failure of Contractor to make payment properly due to subcontractors, employees, suppliers or utilities;

- H. Reasonable evidence to believe the work cannot be completed within the contract time.
- I. Damage to Owner's property not replaced or repaired in timely manner.

When the grounds for withholding payment are removed, payment shall be made for amounts withheld.

- 8.7.3 Neither the issuance of a Certificate of Payment, nor the making of any progress payment, nor the partial or entire use of the project by Owner shall constitute an acceptance of any work not in accordance with the contract documents nor shall it constitute a waiver of any right accruing to Owner or of any duty of Contractor.

## **8.8 SUBSTANTIAL COMPLETION**

- 8.8.1 Substantial Completion is defined as the state of construction at which the work is sufficiently complete and in accordance with the contract documents, so that Owner could occupy and utilize the work or a specific portion of it, for its intended use.
- 8.8.2 When Contractor considers the work substantially complete Contractor shall notify Project Representative in writing and request a Substantial Completion inspection. The notice shall include a comprehensive list of items to be completed, reasons they are not completed and a date of anticipated completion. The notice shall also include copies of all code compliance inspections, the Certificate of Occupancy, if applicable, and any other documents required by the contract.
- 8.8.3 Project Representative shall schedule the Substantial Completion inspection and notify Contractor. The inspection will be performed by Project Representative, Architect, Design Engineers, and Owner personnel in the presence of Contractor. Should this inspection find the work not substantially complete, Owner may terminate the inspection and promptly notify Contractor in writing of the conditions for reinspection. Any deficiencies identified by this inspection will be listed and promptly furnished to Contractor for remedial action.
- 8.8.4 If Contractor has requested that Project Representative and Owner make an inspection to ascertain Substantial Completion, and if the work is not then substantially complete, Contractor shall be liable for all costs Owner, Architect, and Project Representative have incurred in making the inspection.
- 8.8.5 If it is determined on the basis of inspection that the work is substantially complete, Project Representative will issue a Certificate of Substantial Completion. Included in the certificate shall be a list of items which must be completed or corrected before final payment and the time within which such items shall be complete and corrected. Failure to include an item on this list does not alter the responsibility of Contractor to complete all work in accordance with contract requirements.
- 8.8.6 Certificate of Substantial Completion shall state the date of Substantial Completion and the respective responsibilities of Owner and Contractor for the maintenance, insurance and security of the work. Certificate of Substantial Completion shall specifically authorize Owner to take possession of the premises and utilize them for their intended purpose. Owner's beneficial occupancy of the premises shall make reasonable allowance for the performance of the work which Contractor must complete prior to final completion.
- 8.8.7 If Contractor fails to complete or correct work required by the Certificate of Substantial Completion within the time allowed, then the Certificate of Substantial Completion shall be voided and the contract time expended by Contractor shall be counted, and the acceptability of the work shall be inspected as if a Certificate of Substantial Completion had not been issued.
- 8.8.8 Upon Substantial Completion of the work and upon application by Contractor and certification by Project Representative, Owner shall make payment, reflecting adjustment in retainage, if any, for such work as provided in the contract documents.

## **8.9 FINAL COMPLETION AND WARRANTY PERIOD**

- 8.9.1 The terms Final Completion and Warranty Period refer to, respectively, the finalization of the construction phase and a one-year warranty period following the Substantial Completion. Final Completion shall be represented by a lump sum dollar amount identified on the schedule of values. Final Payment represents a sum of money to perform all tasks necessary from Substantial Completion to Final Completion, including completion of final punch list, completion of as-built data, turnover of all warranty information, notarized acknowledgments of payments, and relinquishment of claims against Owner.

- 8.9.2 When Contractor considers the work ready for Final Completion, Contractor shall forward to Project Representative an application for final payment including (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid or otherwise satisfied, (2) consent of surety, if any, to payment, (3) irrevocable, notarized proof of payment and relinquishment of claim against Owner, issued by every subcontractor (whether or not in privity with Contractor), material supplier and other party who might assert a claim against Owner, and (4) all other documentation required by the contract documents. Project Representative and Owner shall promptly inspect the work to see that it is fully performed and complete, that all portions of the work are acceptable and that the contract is fully performed aside from completion of the Warranty Period. After Project Representative has made a determination that these requirements have been met, Project Representative shall prepare and recommend that Owner issue a Certificate of Final Completion and Final Payment.
- 8.9.3 Project Representative's approval of Final Payment constitutes an additional representation by Project Representative to Owner that to the best of Project Representative's knowledge and information, all conditions which Contractor must fulfill prior to being entitled to Final Payment have in fact been fulfilled in accordance with the contract documents.
- 8.9.4 If any party refuses to relinquish its claim, or if Owner considers that any item or portion of the work: (1) is of doubtful acceptability under the contract documents; or (2) may diminish the value of the work; or (3) may prove to be ultimately unreliable; or (4) may prove to be less functional than required by the intent of the contract, then Owner, in lieu of refusing Final Payment to Contractor, may allow Contractor to furnish a bond in a form and in an amount satisfactory to indemnify Owner against losses occasioned thereby. If any additional costs to settle the claim or to correct work of doubtful quality accrue to Owner in excess of the indemnity available to Owner, Contractor shall refund to Owner all differences and costs which Owner might be compelled to pay, including all litigation costs and reasonable attorney fees.
- 8.9.5 Acceptance of final payment by Contractor constitutes an explicit waiver of all claims which Contractor might assert against Owner except those previously made in writing and identified by Contractor as unsettled at the time of the Application for Final Payment.
- 8.9.6 Final Payment to Contractor shall constitute a waiver of all claims which Owner might assert except those arising from: (1) unsettled claims; (2) faulty or defective work (3) failure of the work to comply with the requirements of the contract documents; (4) warranties required by this contract or that by their terms do not expire upon completion of the contract.
- 8.9.7 If, after Substantial Completion, Warranty Completion is delayed through no fault of Contractor, or by the issuance of change orders affecting Final Completion, Owner may, upon recommendation of the Project Representative, extend the contract time by a reasonable period and accept certified applications for further Progress Payments.
- 8.9.8 The contract sum identified on the schedule of values as "Final" shall be based on the contract award in an amount as follows:

<u>CONTRACT AWARD</u>			<u>FINAL AMOUNT</u>
\$45,000	-	\$100,000	9.00% of Contract Amount
\$100,000	-	\$249,999	5.00% of Contract Amount
\$250,000	-	\$499,999	3.00% of Contract Amount
\$500,000	-	\$1,999,999	2.00% of Contract Amount
\$2,000,000	-	\$4,999,999	1.50% of Contract Amount
\$5,000,000	-	\$9,999,999	1.25% of Contract Amount
\$10,000,000	-	\$19,999,999	1.00% of Contract Amount
\$20,000,000	-	up	0.75% of Contract Amount

- 8.9.9 Upon completion of all requirements identified in ARTICLE 8 as "Final" the funds representing Final Payment shall be released to Contractor along with the Certificate of Final Completion. Upon issuance of Certificate of Final Completion all contract sums shall be accounted for to Contractor and shall be paid to Contractor. However, any and all applicable bonds shall not be released until after the Warranty Period.

## **8.10 TIME AND LIQUIDATED DAMAGES**

- 8.10.1 The time permitted for construction of the work will run from issuance of Notice to Proceed through the dates for Substantial Completion as specified in Agreement between Owner and Contractor, unless a specific completion date is specified.
- 8.10.2 The term "day" as used in this contract shall mean "calendar day" unless specifically stated otherwise.
- 8.10.3 All warranty periods and obligations accruing to Contractor through completion of the work shall be considered to begin on the date of Substantial Completion, unless otherwise agreed to separately in writing by Owner and Contractor.
- 8.10.4 Contractor shall begin the work as soon as possible after the date identified in Notice to Proceed and shall prosecute the work expeditiously and with adequate labor and materials.
- 8.10.5 Liquidated damages will, if agreed to by the parties and set out in the Agreement, be applied in the amount set out in the Agreement.
- 8.10.6 Claims for extension of time will be considered only if they affect "critical path" items specifically identified in the detailed progress schedule or in any applicable approved changes to the Contract. Claims for extension of the contract time must be made in writing to Owner, as provided in ARTICLE 9, not more than twenty (20) days after the reason for requested extension appears.

## **ARTICLE 9 CHANGES IN THE WORK, CONTRACT PRICE, AND TIME**

### **9.1 CHANGE ORDERS**

- 9.1.1 Without invalidating this contract, Owner may, at any time, order additions, deletions, or revisions in the work. All such changes must be authorized by written change order. Upon receipt of a change order, Contractor shall proceed with the work in accordance with applicable requirements of the contract documents. If any change order entails an increase or decrease in the contract price or an extension or curtailment of the contract time, adjustment will be made as provided herein.
- 9.1.2 Extra work will be paid for either at a fixed price specified in the change order (using unit prices or a lump sum amount) or on a time and materials basis.
- 9.1.3 Project Representative may authorize minor changes, alterations or deviations in the work in accordance with ARTICLE 2. These changes shall be authorized by written Field Order to be included in a subsequent Change Order.
- 9.1.4 Any additional work performed by Contractor without a fully executed Field Order or properly executed change order will not entitle Contractor to an increase in the contract amount or to an extension of the contract time, except in the case of emergency threatening life, safety or property.

### **9.2 ISSUANCE OF CHANGE ORDER**

- 9.2.1 The contract sum constitutes the total compensation to Contractor for the work required by this contract. The contract price may be changed only by a properly executed change order. Any request for increase in the contract price shall be based upon written notice delivered to Project Representative within ten (10) days after the reason for the proposed increase appears. Change order proposals must be accompanied by all pertinent data and documentation, including a detailed estimate showing costs, quantities, unit prices and markups for overhead and profit.
- 9.2.2 Project Representative shall analyze Contractor's change order proposal and shall make a recommendation to Owner within a reasonable period of time. If Owner accepts the proposal, Project Representative shall prepare the change order for execution by Contractor and Owner.
- 9.2.3 The value of any work added or deleted by change order shall be determined by one of the following methods:

- A. Application of unit prices set forth in the bid: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit. For unit price change orders involving credits to Owner, unit prices applied shall be 90% of the bid unit price.
- B. Application of mutually accepted unit prices for work not covered by bid unit prices: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit.
- C. Mutual acceptance of a lump sum: Contractor's lump sum proposal must include an itemized breakdown of all costs of Contractor, subcontractors and suppliers. Breakdowns shall show quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.
- D. At Owner's option, Contractor may be directed to proceed with additional work on a "time and materials" basis which may also stipulate a maximum "not to exceed" amount. Contractor will be required to maintain and submit detailed records showing all quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

9.2.4 When both additions and credits for related work or substitutions are involved in any one change, the allowance for overhead and profit shall be based on the net change. All related items within a proposal shall be considered as a single item for purposes of computing overhead and profit.

9.2.5 When Contractor is directed to proceed on a time and materials basis, costs of the work shall be submitted daily for approval by Project Representative and may only include:

- A. Actual payroll costs for employees, as substantiated by time cards, in the direct employ of Contractor for the times actually utilized in prosecution of the additional work, including allowance for benefits which Contractor customarily provides its employees;
- B. The actual substantiated cost to Contractor for all material and equipment incorporated into the work, including transportation and storage expenses;
- C. The actual substantiated amounts of payments by Contractor to subcontractors for work performed by the subcontractors;
- D. Any costs of special consultants to the extent authorized by Owner;
- E. Substantiated equipment rental costs at reasonable market rates;
- F. Additional supervision and travel costs reasonably related to the work performed;
- G. Increased bond premiums;
- H. Additional license fees, permits, or applicable taxes;
- I. Minor incidental expenses such as telegrams and long distance telephone charges.

To these direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

9.2.6 Unless specifically agreed to by Owner in writing, the cost of additional work shall not include any portion of Contractor's general overhead, nor any sum attributable to Contractor's prosecution and supervision of the principal work at the site, nor any overtime expense, unless specifically agreed to by Owner in writing. Contractor shall not be compensated for any casualty or other losses or expenses attributable to negligence of Contractor or any person in its employ or any subcontractor or supplier.

9.2.7 Payment to Contractor shall be made only for the actual quantities of work performed and accepted or materials furnished, in conformance with the contract or applicable change order. When the accepted quantities of work or materials vary from the quantities stated in the bid schedule, Contractor shall accept as

payment in full, payment at the original contract unit prices for the quantities of work and materials furnished, completed and accepted; except as provided in the contract documents.

### **9.3 UNIT PRICES**

- 9.3.1 When unit prices are used, and where the final quantity of a major contract item varies more than 25% above or below the bid quantity, either party to the contract may request an equitable adjustment in the contract unit price of that item. A major contract item is an item equal to 10% or more of the total contract.
- 9.3.2 When the final quantity of work is less than 75% of the bid quantity, the equitable adjustment shall be made for those units of work done and accepted, except that the total payment for the item shall not exceed 75% of the total amount bid for the item.
- 9.3.3 To determine unit prices for authorized changes or additions in the work that alter the quantity of work under a lump sum pay item, adjustment to the pay item will be determined by multiplying the added or deleted quantity by the quotient of the contract lump sum price and the estimated quantity shown on the original plans. Payment will be made under a new contract item established for that purpose. Adjustments will be made as a change order to the contract.
- 9.3.4 No allowance shall be made for any increased expenses, loss of expected reimbursement or loss of anticipated profits suffered or claimed, either directly from such alterations in quantities or indirectly from unbalanced allocations among the contract items by Contractor, or any other causes.

### **9.4 ALLOWABLE OVERHEAD AND PROFIT**

- 9.4.1 When the value of change order work is determined by the lump sum method or by the time and materials method, the following definitions and percentages shall apply.
- 9.4.2 Direct costs are defined as the net cost to Contractor to accomplish a given change. Costs of bonds and insurance associated with the change shall be applied after addition of indirect costs.
- 9.4.3 Indirect costs are defined as general operational charges relating to the accomplishment of a given change, including but not limited to small tools, incidental job burdens and general office expense.
- 9.4.4 Overhead and Profit: Allowances for all indirect costs shall be identified as combined overhead and profit and shall not exceed the percentages in the following schedule:
- A. Additive work:
- (1) Prime Contractor:
    - (a) 15% of the direct costs of own work in excess of \$1,000.00; 20% when the total value of own work is equal to or less than \$1,000.00.
    - (b) 8% of the direct costs of work performed by subcontractors not including subcontractor's overhead and profit.
    - (c) 8% of the direct costs of equipment.
  - (2) Subcontractors: percentages represented in subsections (a) and (b) are a maximum percentage allowed regardless of the tier or number of subcontractor(s) performing the work:
    - (a) 15% total of the work performed by subcontractors in excess of \$1,000.00; 20% total of the work performed by subcontractor equal to or less than \$1,000.00.
    - (b) 8% of the direct costs of equipment.
  - (3) In no case shall overhead and profit exceed 23% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work exceeds \$1,000.00. In no case shall overhead and profit exceed 28% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work is equal to or less than \$1,000.00.
- B. Deductive work:
- (1) Prime Contractor: 4% of the direct cost of deleted own work.

## **9.5 CONCEALED CONDITIONS**

- 9.5.1 This ARTICLE applies only when concealed conditions substantially at variance with the conditions set forth in the contract documents are encountered and these conditions were not foreseeable by Contractor or reasonably inferable from information provided by Architect or Owner in the bidding documents.
- 9.5.2 If it is determined the Contractor could not predict the concealed conditions as set forth under ARTICLE 9.5.1, Owner may issue a change order for the performance of additional work required with an equitable adjustment in the contract sum. Contractor shall not begin work upon any concealed condition until Owner has approved a written change order

## **ARTICLE 10 TESTING AND CORRECTION OF WORK**

### **10.1 TESTS AND INSPECTIONS**

- 10.1.1 Contractor shall be responsible for securing permits and approvals as set forth under ARTICLE 4.11 from entities having jurisdiction over the work. Owner may provide any special testing or inspections required by the contract documents. Contractor shall not cover work that requires testing, inspection or approval until such testing, inspection, or approval has been completed.
- 10.1.2 Contractor shall give Owner timely notice of readiness of the work for all inspections, tests or approvals. Minimum time required for giving notice of readiness will be agreed upon by Owner and Contractor prior to start up of work.
- 10.1.3 Neither observation by Owner nor inspections, tests, or approvals by Owner or Owner's testing agency shall relieve Contractor from Contractor's obligation to perform the work in accordance with the contract documents.

### **10.2 UNCOVERING OF WORK**

- 10.2.1 If any work is covered or buried contrary to contract requirements or Owner's written request, such work shall be uncovered at Owner's request for inspections, tests or approvals. Uncovering and recovering shall be at Contractor's expense, unless Contractor has given notice of intent to cover the work and Owner has not acted with reasonable promptness to provide any necessary tests, inspections or approvals.
- 10.2.2 If any work has been covered which Owner has not specifically requested to observe prior to covering, or if Owner considers it necessary or advisable that covered work be inspected or tested by others, then Contractor shall, at Owner's request, uncover, expose or otherwise make available for observation, inspection, or testing, that portion of the work as Owner may require. Contractor shall furnish all necessary labor, materials and equipment. If such work is found to be defective, Contractor shall bear all expenses, including compensation for any additional professional services and testing. If, however, the uncovered work is found not to be defective, Contractor shall be allowed an equitable adjustment in the contract price or the contract time. Only Contractor's direct costs attributable to the uncovering of work and its recovering shall be allowed.

### **10.3 DEFECTIVE WORK**

- 10.3.1 All work not meeting the requirements of the contract documents shall be considered defective.
- 10.3.2 Contractor shall promptly correct or replace any defective work. Any and all costs associated with correction or replacement shall be borne by Contractor. Contractor shall also bear the expense of making good all work of others destroyed or damaged or required to be redone because of the correction or replacement of defective work.
- 10.3.3 If, after seven (7) days written notice to Contractor, Contractor fails to correct deficiencies or to provide Owner with an approved schedule for correcting defective work, Owner may, without prejudice to any other remedy it may have, make good deficiencies and deduct the cost thereof from the payment then or thereafter due Contractor. No extensions of time shall be allowed for correction of work that is defective.

## **ARTICLE 11 WARRANTIES**

- 11.1 Contractor unconditionally warrants for a period of one year from issuance of the Certificate of Substantial Completion the usability and quality of all work, labor and materials incorporated into the project, unless otherwise provided in the contract documents. After the approval of Final Payment and prior to the expiration of one year after the date of Final Completion, any work found to be defective shall be remedied promptly by Contractor within fourteen (14) days of written notice without cost to Owner and in accordance with Owner's written instructions. Contractor shall either correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with acceptable work. If Contractor does not promptly comply with the terms of Owner's instructions, Owner may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be deducted from Warranty Period Payment or paid by Contractor to Owner, unless the surety elects to remedy deficiency.
- 11.2 In addition to other warranties set forth in this contract and in accordance with requirements stated in the contract documents, Contractor shall obtain and transmit to Architect all warranties on material and equipment incorporated into the work and either provided by the supplier or otherwise required by the contract documents. Transmittal of warranties to Owner shall be a prerequisite of the Certificate of Final Completion.
- 11.3 All material and equipment installed by Contractor shall have a manufacturer's warranty for a period of one year, except as otherwise provided by the contract documents. The period of warranty shall begin on the date of Substantial Completion unless otherwise noted on the Certificate of Substantial Completion. This article does not limit any manufacturer's warranty which extends for a period of time longer than that specified as minimum in the contract documents.
- 11.4 If a warranty period in excess of one year on a particular item or part of the work is required by the contract documents, the longer warranty period shall govern warranty obligations of Contractor.
- 11.5 Owner may accept defective work or materials found during the warranty period instead of requiring correction or removal and replacement. If acceptance occurs prior to approval of final payment, a change order shall be issued to reduce the contract price. If acceptance occurs after approval of final payment, an appropriate amount shall be paid by Contractor to Owner.
- 11.6 The provisions of this ARTICLE shall not be construed as limiting the right of Owner to make a claim against Contractor for work not constructed in accordance with the contract documents. Where a defect attributable to Contractor's or subcontractor's materials or workmanship appears after expiration of the one-year warranty period, Owner shall notify Contractor of the appearance of damages due to defective work or materials and shall offer Contractor the right to replace or repair all defective work and other work using Contractor's forces. If Contractor fails to correct the work and any consequentially damaged work within a reasonable time, or if Contractor refuses to correct the work, Owner may correct the work utilizing Owner's own forces. Contractor shall pay Owner all costs attributable to correction of the defective work and any consequential damages occasioned by the defective work.
- 11.7 Should Owner and Contractor agree to delay completion of any items, the one-year warranty period for those items shall commence upon written acceptance of each item by Owner.

## **ARTICLE 12 CLAIMS AND LITIGATION**

- 12.1 This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.
- 12.2 No controversy or claim arising out of this contract shall be subject to binding arbitration unless both Owner and Contractor agree in writing to submit the question to arbitration at the time when the controversy arises.
- 12.3 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be referred initially to Project Representative, who shall render a recommendation in writing to Owner within a reasonable time.
- 12.4 During pendency of any claim arising out of this contract, Contractor shall carry on the work and maintain the Progress Schedule approved by Owner unless otherwise agreed by Contractor and Owner in writing. Should

Contractor cease work, Contractor shall be in breach of this contract and Owner shall have the right to terminate the contract and to prosecute the work to completion with Owner's own forces or with a replacement Contractor. Contractor shall be responsible for any increase in costs to Owner above the contract price.

- 12.5 Contractor may make claims for additional costs only if the additional cost involved has occurred because of:
- A. A change order issued by Owner, where the additional sum due Contractor set forth in the change order is in dispute.
  - B. An order by Owner to stop the work where Contractor was not at fault.
  - C. Concealed conditions as set out in ARTICLE 9.
  - D. Failure of payment by Owner pursuant to ARTICLE 3.
  - E. Additional costs or delays caused by separate contractors' or Owner's forces in accordance with ARTICLE 6.
- 12.6 Contractor shall not make a claim for additional costs where the basis of the claim lies in an oversight or mistake made by Contractor during the bidding process or by reason of negligent acts or omissions of Contractor or any mistake in judgment or improper selection of construction means, methods, sequences and materials during the course of construction.
- 12.7 If Contractor is entitled to make claim for an increase in the contract sum, Contractor shall deliver to Owner written notice of Contractor's intention to assert each claim within twenty (20) days after occurrence of each event giving rise to the claim. Contractor must give this notice of claim and specify the full extent and nature of the claim(s) to Owner before proceeding to execute the work upon which a claim might be asserted. No claim for additional costs or compensation shall be valid unless the prior twenty (20) day notice has been given. Adherence to this provision shall be strict. Any adjustment in the contract sum resulting from settlement of claims shall be authorized by change order.

## **ARTICLE 13    TERMINATION OF THE CONTRACT OR SUSPENSION OF THE WORK**

### **13.1 TERMINATION BY OWNER**

- 13.1.1 Owner shall have the right to terminate the contract if Contractor should file for bankruptcy, reorganization, otherwise be declared insolvent, or if Contractor makes a general assignment for the benefit of creditors. Exercise of these rights, where required by law, is contingent upon relief from the automatic stay provisions of the United States Bankruptcy Court or through other appropriate court order. This right of termination is in addition to the right of Owner to terminate for cause outlined below and other rights of termination as stated in the contract documents.
- 13.1.2 Termination for cause: If Contractor: (1) repeatedly refuses or fails to supply enough proper skilled workmen; or (2) fails to pay promptly all subcontractors, suppliers, or other parties as set out in the contract documents; or (3) fails to adhere in all respects to the provisions of Title 8, Chapter 30, of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract and all other pertinent statutes, ordinances or regulations or orders of any local, state, or federal authority concerning payment; or (4) allows insurance to lapse; or (5) if after seven (7) days written notice, without prejudice to any other remedy of Owner, Contractor fails to correct to Owner's satisfaction deficiencies in work that does not conform to the contract documents; or (6) allows a situation that creates a danger to person or property to arise. Where an emergency situation creating a danger to person or property arises, Owner may at its option terminate the contract and take possession of the site and any of Contractor's equipment and material necessary to complete an emergency response or hire a separate contractor to complete the emergency response. Contractor shall be paid the contract rate for the material used and shall be paid for the use of Contractor's equipment at the price shown in the contract documents or at the rate for such equipment listed in RENTAL RATE BLUE BOOK FOR CONSTRUCTION EQUIPMENT, published by Machinery Information Division of K-III Directory Corporation, 1735 Technology Drive, Suite 410, San Jose, California 95110. If the rate for such equipment is not so listed, reliable sources will be used to determine a reasonable rate.
- 13.1.3 In the event of termination for cause, Owner shall have the right of set-off, from any payment due Contractor, of all expenses, costs, and damages including but not limited to all professional and legal expenses and attorneys' fees and costs or other additional expenditures necessary to complete the projects that are occasioned by the termination. In the event such amounts exceed the amount of payment withheld,

Contractor shall be liable to Owner for such amounts. No payment shall be made to Contractor prior to determination that a balance is due Contractor after the amount of set-off is determined.

- 13.1.4 Owner may terminate this contract at any time for the convenience of Owner for any reason deemed by Owner to be in the best interest of Owner.
- 13.1.5 If this contract is terminated for convenience, Contractor will be directed to make all necessary preparations for closing out the project and for safeguarding Owner's materials and the work already completed. Contractor will be paid for all conforming work done to date and for all materials delivered to the site and already paid for by Contractor, together with all reasonable costs directly attributed to termination, including fixed overhead. Contractor shall be responsible for minimizing the extent of such expenses and shall **not** be paid for expenses which could have been reasonably avoided. On the date that notice of termination or suspension for convenience is issued, Contractor shall immediately take all actions necessary to stop orders of material, rental of equipment or premises, employment of persons on the project, and shipment of materials not yet delivered to the site. The notice of termination or suspension for convenience shall specify a date by which all steps necessary for termination shall be completed and by which Contractor shall have removed any unused material and all Contractor's equipment and forces. Contractor shall leave the premises in a clean and safe condition on or prior to the date specified in the notice. Owner shall certify that all termination procedures have been completed and that the premises have been turned over to the possession of Owner. Within fifteen (15) days after that certification by Owner, Contractor shall render to Owner a bill for all expenses incurred in termination and for all work done subsequent to the last progress payment. Owner shall pay Contractor all sums properly due, together with any retainage not necessary to cover apparently nonconforming work or other changes, within fifteen (15) working days after the bill has been received by Owner, provided that Owner has received releases for all liens.
- 13.1.6 If Contractor is terminated for cause or default on this contract, the performance bond surety shall commence performance within fourteen (14) days of the termination or default. If the surety does not arrange for or commence performance by that date, Owner shall have the option to complete or arrange for performance and the surety shall not be relieved of any responsibility for payment of costs of performance.
- 13.1.7 Should Owner elect to terminate Contractor's services prior to final completion of the work, such termination shall not affect any rights Owner might assert against Contractor at time of termination or thereafter. Any retention or payment of monies by Owner to Contractor shall not release Contractor from that liability.

## **13.2 SUSPENSION OF THE WORK**

- 13.2.1 Owner may, at any time and for any reason, suspend the work or any portion of it for a period not to exceed ninety (90) days, by written notice delivered to Contractor thirty (30) days prior to the date fixed for suspension. The notice of suspension shall fix the date on which the work is to be resumed and Contractor shall resume the work on the date so fixed. Equitable adjustment in the contract price, the contract time, or both shall be made for cost or delay directly attributable to suspension of the work.

## **13.3 TERMINATION BY CONTRACTOR**

- 13.3.1 If through no act or fault of Contractor, Owner orders a suspension of work for a period of more than ninety (90) days, Contractor may, upon thirty (30) days written notice to Owner, terminate this contract and recover from Owner payment for work accepted to date plus purported overhead and profit in the manner provided in ARTICLE 9.4. Contractor shall also have the right to terminate this contract if Owner fails within forty-five (45) days to pay amounts properly due Contractor for satisfactorily accomplished work, so certified by Project Representative, as due and payable. The provisions of this section do not include amounts ordinarily retained from Contractor's Application for Payment or amounts retained because of unsatisfactory, defective, or incomplete work, or for any other reason provided in the contract documents.

## **ARTICLE 14 MISCELLANEOUS PROVISIONS**

- 14.1 Whenever any provision of the contract documents requires written notice, such notice shall be deemed to have been given and binding when given by certified mail to the respective party at the address provided in the Legal Notice provision of the agreement section of the contract documents.

- 14.2 Neither party may assign this contract without the written consent of the other party and Contractor may not delegate duties under this contract other than as provided in the contract documents without the prior written consent of Owner.
- 14.3 In the event a provision of the contract documents is found to be unenforceable or void for any reason, it shall be considered as severed from the contract documents, and the remaining portions of the contract documents shall stand as if that provision had never been included in the contract documents. In the event the unenforceable or void provision is legally essential to the continuing existence of the contract, the parties shall attempt to substitute a reasonable replacement provision.
- 14.4 **No general condition stated in these provisions or other provision in the contract documents lessens, alters, or makes inapplicable the requirement for indemnification stated in ARTICLE 4.13. In the event of conflict between any contract provisions, the requirements set out in ARTICLE 4.13 control.**

**END GENERAL CONDITIONS**

# **PART IV**

## **TITLE 36 WAGE SCHEDULE**

**Retrieve current schedule from:**  
**[www.labor.state.ak.us/lss/pamp600.htm](http://www.labor.state.ak.us/lss/pamp600.htm)**

### **DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT FORMS**

#### **NOTICE OF WORK**

**Retrieve current schedule from:**  
**[www.labor.state.ak.us/lss/forms/notice-of-work.pdf](http://www.labor.state.ak.us/lss/forms/notice-of-work.pdf)**

#### **NOTICE OF COMPLETION OF PUBLIC WORKS**

**Retrieve current schedule from:**  
**[www.labor.state.ak.us/lss/forms/not-comp-pub-wrks.pdf](http://www.labor.state.ak.us/lss/forms/not-comp-pub-wrks.pdf)**

# **PART V**

# **SPECIFICATIONS**

**CHAPMAN ELEMENTARY SCHOOL  
WINDOW-WALL AND SIDING REPLACEMENT  
PROJECT MANUAL  
VOLUME 1 INDEX**

---

**DIVISION 1 - GENERAL REQUIREMENTS**

01010	SUMMARY OF WORK
01045	CUTTING AND PATCHING
01052	GRADES, LINES AND LEVELS
01060	REGULATORY REQUIREMENTS
01090	REFERENCE STANDARDS
01200	PROJECT MEETINGS
01250	DEFINITIONS AND EXPLANATIONS
01311	NETWORK ANALYSIS
01340	SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
01370	SCHEDULE OF VALUES
01400	QUALITY CONTROL
01500	TEMPORARY FACILITIES AND CONTROLS
01569	CONSTRUCTION CLEANING
01600	MATERIAL AND EQUIPMENT
01610	TRANSPORTATION AND HANDLING
01620	STORAGE AND PROTECTION
01630	PRODUCT OPTIONS AND SUBSTITUTIONS
01700	CONTRACT CLOSE-OUT PROCEDURES
01710	FINAL CLEANING
01720	RECORD DOCUMENTS
01730	OPERATION AND MAINTENANCE DATA
01740	WARRANTIES AND BONDS
01750	SPARE PARTS AND MAINTENANCE MATERIALS

**DIVISION 2 – SITEWORK**

028213 ASBESTOS ABATEMENT  
028333 LEAD REMOVAL AND DISTURBANCE

**DIVISION 3 – CONCRETE - NOT USED**

**DIVISION 4 – MASONRY - NOT USED**

**DIVISION 5 – METALS - NOT USED**

**DIVISION 6 – WOOD, PLASTICS AND COMPOSITES**

06010 LUMBER  
06100 ROUGH CARPENTRY  
06200 FINISH CARPENTRY  
06455 SIMULATED WOOD TRIM

**DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

07110 SHEET MEMBRANE WATERPROOFING  
07190 VAPOR RETARDER  
07212 BOARD INSULATION  
07213 BATT INSULATION  
07214 FOAMED-IN-PLACE INSULATION  
07250 WEATHER BARRIER  
07423 METAL WALL PANELS  
07620 FLASHING AND TRIM  
07900 JOINT SEALANTS

**DIVISION 8 - OPENINGS**

08520 ALUMINUM WINDOWS  
08800 GLAZING

**DIVISION 9 - FINISHES**

09250 GYPSUM WALLBOARD  
09900 PAINTING

**DIVISION 10 – SPECIALTIES - NOT USED**

**DIVISION 11 - EQUIPMENT - NOT USED**

**DIVISION 12 - FURNISHINGS - NOT USED**

**DIVISION 13 - SPECIAL CONSTRUCTION - NOT USED**

**DIVISION 14 - CONVEYING EQUIPMENT - NOT USED**



SECTION 01010 SUMMARY OF WORK

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Work required under this contract is described in the subsequent sections and is more particularly delineated in the Drawings, and includes the providing of all labor, equipment, tools, and materials required for the REPLACEMENT OF WINDOWS AND SIDING, as described in this and subsequent sections and in other Contract Documents.
2. The Contract Documents do not purport to describe in detail, absolute and complete construction information. In some instances drawings will be diagrammatic and not necessarily to exact scale or portray exact conditions at any particular location or situation.
3. It shall be the responsibility of the Contractor to determine conditions and requirements at each particular situation, and provide all items necessary for the completion of the Work, according to the parameters established by the Contract Documents.

B. Language:

The language employed in these specifications is addressed directly to the Contractor. Imperative or indicative language is generally employed throughout and requirements so expressed are the mandatory responsibility of the Contractor even though the work specified actually may be accomplished by specialty subcontractors hired, retained, or otherwise engaged by the Contractor. References to third parties in this regard shall not be interpreted in any way as to relieve the Contractor of any of his responsibilities under the Contract.

1.02 QUALITY ASSURANCE

A. Qualifications of workers:

For all the operations under this Contract:

1. Employ a thoroughly qualified and experienced superintendent who shall be completely familiar with the requirements of the Contract Documents, who shall direct all work, and who shall be present at the job site at all reasonable times while work is in progress.
2. Employ only qualified journeymen mechanics, tradesmen, or installers who are thoroughly skilled and experienced in their respective trades or specialties.
3. Apprentices and helpers, when employed, shall be under the supervision of qualified journeymen mechanics or tradesmen at all times.

B. Referenced Standards:

Standards referenced in this and succeeding sections of the specifications shall become a part of the Contract Documents to the extent of their applicability to the particular item, process, method or operation involved.

### 1.03 CONTRACTOR'S DUTIES

- A. Except as otherwise specifically required, provide and pay for labor, materials, tools, machinery, equipment, and all transportation.
- B. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of the work.
- C. In the event of any observed variation between the Contract Documents and legal requirements, or any discrepancy or ambiguity in or among any of the requirements of the Contract Documents or any referenced standards, promptly notify the Owner's Representative in writing in which eventuality, appropriate changes and modifications to the Contract Documents will be initiated by the Owner and furnished to the Contractor. Contractor shall assume responsibility for work performed without proper notice to Owner, when such work was known by Contractor to be contrary to such requirements. Do not proceed in questioned areas until resolution or clarification has been obtained.

### 1.04 PREMISES

#### A. Contractor's Access:

The Owner will make available at the indicated locations, interior and exterior space, as reasonable, for the storage and staging of the Contractor's materials and equipment, subject to the following controls.

1. Use of such areas shall be covered by the insurance required by the General Conditions (Provisions).
2. Storage shall be maintained in a neat and orderly condition at all times conforming to all fire and safety regulations.
3. Fire lanes and required exit pathways shall be kept free and unobstructed at all times.
4. Do not unreasonably encumber site with materials and equipment.
5. Do not impose loads which might impair the structural integrity of any work already in place.
6. Use of interior space shall be coordinated with and subject to the requirements of the Owner.
7. Upon completion of the contract, restore all areas to original conditions which prevailed prior to onset of the work, or as otherwise provided in the Contract Documents.

#### B. Environmental Requirements:

1. Restrict all operations to the areas assigned for storage, staging, and other necessary operations, and do not permit the disturbance of any areas not assigned for approved operations shown as limits of construction under this Contract.
2. The areas indicated on the drawings where existing natural vegetation remains is to be protected by the Contractor. The Contractor shall cordon-off these areas. They are not to be used by the Contractor for storage of materials, access of any other purpose. Except for the work to be performed in these areas, as defined on the drawings, these areas are outside the limit of work area. The Contractor will be charged \$250.00 per tree in these

areas which has been removed, damaged, or destroyed. Damage to the natural ground cover in these areas will be restored to the satisfaction of the Architect.

3. Employ all means necessary to avoid the accumulation of debris and construction residue, avoiding the spread of dust and noxious odors.

## PART 2 PRODUCTS

### 2.01 STORAGE AND PROTECTION

Do not deliver any of the materials or equipment for this Contract to the job site until adequate facilities are available for their proper storage and protection. Comply with the detailed requirements in subsequent sections for the storage and protection of the particular products of those sections.

Take all measures necessary to protect the installed work and materials of all trades at all times before, during, and after installation.

### 2.02 MATERIALS AND EQUIPMENT

#### A. Design:

Design is based upon the method system, or product described, and the Drawings reflect the desired location and configuration. In some instances, the recommended installation details of the named manufacturer, comparable methods systems or products of alternate manufacturers will be considered (unless otherwise noted as "No Substitution") upon submittal per Sections 01340, 01360, and 01600 of these specifications.

#### B. Materials:

All materials proposed for incorporation into this project shall be new and as specified or as shown in the Drawings, or if not specifically called out, shall be of first quality of their respective kinds, as selected by the Contractor, subject to the approval of the Owner's Representative.

#### C. Minimum Quality:

In every instance the quality level shown or specified is intended as the minimum acceptable for the work to be performed or provided.

#### D. Conflicting or Overlapping Requirements:

In the event of conflict in or among any of the requirements of this specification or any referenced standards, or where two or more referenced standards or sets of requirements are specified, and establishes differing minimums of levels of quality, the most stringent requirement shall prevail and shall be so enforced, unless specific language in the text (not in the referenced standards) clearly indicates that the less stringent requirement is intended to prevail.

#### E. Submittals:

Make all submittals of materials and equipment proposed for incorporation into the Work in accordance with Sections 01340 & 01360 and the specific requirements of other individual sections of these specifications.

### PART 3 EXECUTION

#### 3.01 JOB CONDITIONS

A. Inspection:

Do not commence any phase of the Work until all previous work has been examined and it has been determined that subsequent operations may be executed in a timely and orderly manner and in complete accordance with the original design, the approved submittals, and all applicable codes and regulations.

B. Installer's Certification:

Where directed in subsequent sections, obtain written certification from subcontractors or installers that substrates affecting their operations have been examined and found satisfactory for further work. Submittal of such certification, countersigned by the Contractor, shall be a condition for acceptance of that particular installation or phase of work.

C. Discrepancies:

In the event of discrepancy, ambiguity, conflict, interference, or any other unanticipated condition or situation which might impede timely execution of the Work, immediately notify the Owner's Representative and do not proceed in questioned areas until resolution or clarification has been obtained.

D. Repairs and Replacements:

In the event of damage to any part of any installed material, equipment, assembly, or system, make all repairs or replacements necessary to restore the original undamaged condition. Do not allow damaged material to be incorporated into the Work. Repairs and replacements shall be subject to the approval of the Owner's Representative and shall be accomplished at no additional expense to the Owner.

#### 3.02 INSTALLATION

Install all work in complete accordance with the original design, the approved submittals, and all applicable codes and regulations. Perform all work under the direction of qualified supervisors, foremen, or leadmen, and do not permit any phase of the work to be commenced by subcontractors or subcontractors without qualified supervisors present to direct their operations.

#### 3.03 GUARANTEES AND WARRANTIES

In addition to the requirements given in paragraph 3.10 of the General Provisions, the Contractor shall extend to the Owner such other bond, warranty, or manufacturer's guarantee offered by any vendor, manufacturer, or other supplier on any material, goods, equipment, or workmanship included in the Work.

END OF SECTION

SECTION 01045 CUTTING AND PATCHING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Cutting, fitting and patching required to complete work and to:
  - a. Accommodate coordination of the Work.
  - b. Provide for installation of other work.
  - c. Remove and replace defective work.
  - d. Remove and replace work not conforming to requirements of Contract Documents.
  - e. Uncover other work for access or inspection.
  - f. Obtain samples for testing or similar purposes.
  - g. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
  - h. Uncover portions of the work to provide for installation of ill-timed work.
2. Cutting and patching also includes, but is not limited to, cutting and patching of nominally completed and previously existing work, and is defined to exclude integral cutting and patching during manufacturing, fabricating, erecting, and installation process for individual units of work.

B. Related Sections:

1. Refer to other section of specifications for specific cutting and patching requirements and limitations applicable to individual units of work.

1.02 SUBMITTALS

A. Submit written request to Owner's Representative well in advance of executing cutting or alteration which affects:

1. Work of Owner or separate contractor.
2. Structural value or integrity of element of Project.
3. Integrity of effectiveness of weather exposed or moisture resistant elements or systems.
4. Efficiency, operating life, maintenance or safety of operating elements.
5. Visual qualities of sight exposed elements.

B. Request shall include:

1. Project identification.
2. Description of affected work.
3. Necessity for cutting.
4. Effect on other work, or structural integrity of project.
5. Description of proposed work. Designate:
  - a. Scope of cutting and patching
  - b. Contractor and trades to execute work
  - c. Products proposed for use
  - d. Extent of refinishing
6. Alternatives to cutting and patching
7. Designation of party responsible for cost of cutting and patching.

- C. Should conditions of work or schedule indicate change of materials or methods, submit written recommendation to Owner's Representative including:
1. Conditions indicating change.
  2. Recommendations for alternative materials or methods.
  3. Submittals as required for substitutions.
  4. Time involved and impact to other on-going activities.
  5. Cost involved.
  6. Time work will be accomplished to provide for Owner's Representative's observations.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION

3.01 JOB CONDITIONS

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by cutting and patching operations, to such acceptable or approved condition. Return adjacent areas to condition existing prior to start of work.

3.02 VISUAL REQUIREMENTS

- A. Do not cut and patch work exposed on exterior of building in manner resulting in reduction of visual qualities, or resulting in evidence of cut and patch work. Remove and replace cut and patched work judged by Owner's Representative to be visually unacceptable.
- B. Work includes, but is not limited to, items of woodwork, paneling, drywall, wall finishing, finished flooring, and ceilings.

3.03 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 work being cut and patched in terms of performance characteristics and visual effect where applicable.

3.04 INSPECTION

- B. After uncovering work, inspect conditions affecting installation of new products.

3.05 PREPARATION PRIOR TO CUTTING

- A. Provide shoring, bracing, and support as required to maintain structural integrity of Project.
- B. Provide protection for other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

### 3.06 PERFORMANCE

- A. Before the start of cutting work, meet at the work site with all parties involved in cutting and patching, including (if necessary) mechanical and electrical trades. Review areas of potential interference and conflict between the various trades. Coordinate layout of the work and resolve potential conflicts before proceeding with the work.
- B. Execute fitting and adjustment of products to provide finished installation to comply with specified products, functions, tolerances and finishes.
- C. Execute cutting and demolition by methods which will prevent damage to other work and provide proper surfaces to receive installation of repairs and new work.
- D. Restore work which has been cut or removed. Install new products to provide completed work in accord with requirements of Contract Documents.
- E. Do not cut and patch structural work in manner resulting in reduction of:
  - 1. Load carrying capacity.
  - 2. Load/deflection ratio.
- F. Refinish entire surface as necessary to provide even finish.
  - 1. Refinish continuous surfaces to nearest intersection.
  - 2. Refinish entire unit of an assembly.
- G. Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with original installer; comply with original installer's recommendations.
- H. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work. Where feasible, inspect and test patched areas to demonstrate integrity of work.
- I. Restore exposed finishes of patched area and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

END OF SECTION



SECTION 01052 GRADES, LINES, AND LEVELS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Property lines, bench marks, existing and proposed grades, and improvements are indicated on Drawings.
- B. Lay out Work and provide lines and measurements for the Work.
  - 1. Verify adjustments required due to existing improvements, adjoining property rights, good appearance, and proper drainage.
- C. Take necessary measurements as far in advance of required installation as practicable. Verify measurements given on Drawings.
  - 1. Report promptly variations and discrepancies to Owner's Representative.
  - 2. Verify incomplete or nonclosing dimensions with Owner's Representative.
- D. Dimensions on Drawings take precedence over scaled dimension. Where dimensions are not given, scaled dimensions to nearest point of reference may be used subject to verification of Owner's Representative.
- E. Site Investigations and Soils Report, prepared or obtained by the Owner's Representative are estimating program requirements and budgets and are not part of the Contract Documents. The Contracting Agency denies any liability for interpretation or reuse of the report.
  - 1. Soils Logs – Attached ( 4 pages)
  - 2. Soils Report – Available for review.

1.02 SURVEYS, LINES AND LEVELS

- A. Provide services of a registered civil engineer or registered land surveyor with a minimum of 5 years experience in Alaska, acceptable to Owner's Representative and licensed in the State of Alaska, to lay out work.
  - 1. Establish interior and exterior construction and control lines.
  - 2. Set clearing stakes.
  - 3. Set grades using:
    - a. Grade stakes
    - b. Slope stakes
    - c. Finish grade stakes
- B. Provide all layout and construction lines and grade staking required for type of work being performed according to normal engineering procedures.
- C. Maintain construction lines and grade staking in condition to assure accurate and proper control of work and to verify final grades and construction lines.
  - 1. Establish and safeguard additional bench marks in at least two widely separated places.
  - 2. Establish axis lines showing exact floor elevations and other lines, dimensions and reference points as required for information and guidance of all trades.

1.03 SUBMITTALS

A. Take settlement readings of work.

1. At predetermined number of points selected by Owner's Representative.
2. Weekly until work is completed or until such time as directed.

B. Record all survey data and make available to Owner's Representative.

C. Submit certificate signed by registered engineer or surveyor certifying elevations and improvements are in conformance with requirements of Contract Documents.

1. Describe in detail and indicate on Project Record Documents all variation from Contract Documents.
2. Include field survey notes starting date, name of surveyor or foremen, and adequate description of temporary bench marks when used.
  - a) Orient sketches with north arrow and show relationship and ties to stationing control.
  - b) Reduce notes to show actual elevations at design datum.
3. Base horizontal control, for Project Record Documents information, on stationing system shown. Use design datum for all elevations.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01060 REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 BUILDING CODES

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

International Building Code  
National Electrical Code  
International Plumbing Code  
International Mechanical Code  
International Fire Code  
Americans with Disabilities Act (ADA)  
Accessibility Guidelines for Buildings and Facilities  
ASHRAE 90-75

- B. Construction Type: See Drawing Cover Sheet

- C. Occupancy Type: See Drawing Cover Sheet

1.02 APPLICABLE STANDARDS

- A. Where indicated, comply with requirements and recommendations of referenced standards and other publications, except to extent more detailed or more stringent provisions are required by applicable codes and governing regulations.
- B. Where two or more standards or recommendations of trade associations apply to same quality control requirement for work, comply with most stringent. Refer uncertain instances to Owner's Representative.

1.03 FEES AND PERMITS

- A. Comply with requirements of Contract General Conditions and Supplementary Conditions.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01090 REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance
- B. Schedule of references

1.02 RELATED SECTIONS

- A. General Conditions

1.03 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the Bid date, except when a specific date is specified.
- C. Obtain copies of standards when required by Contract Documents.
- D. Maintain copy at jobsite during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Owner's Representative before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.04 SCHEDULE OF REFERENCES

- AA Aluminum Association  
818 Connecticut Avenue, NW  
Washington, DC 20006
- AABC Associated Air Balance Council  
1000 Vermont Avenue, NW  
Washington, DC 20005
- AASHTO American Association of State Highway and Transportation Officials  
444 North Capitol Street, NW  
Washington, DC 20001
- ACI American Concrete Institute  
Box 19150  
Reford Station  
Detroit, MI 48219

K+A designstudios, P.C.

---

ADC	Air Diffusion Council 230 North Michigan Avenue Chicago, IL 60601
AGC	Associated General Contractors of America 1957 E Street, N.W. Washington, DC 20006
AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740
AIA	American Institute of Architects 1735 New York Avenue, N.W. Washington, DC 20006
AISC	American Institute of Steel Construction 400 North Michigan Avenue Eighth Floor Chicago, IL 60611
AISI	American Iron and Steel Institute 1101 17 Street, N.W. Washington, DC 20036
AITC	American Institute of Timber Construction 333 W. Hampden Avenue Englewood, CO 80110
AMCO	Air Movement and Control Association 30 West University Drive Arlington Heights, IL 60004
ANSI	American National Standards Institute 11 W. 42st New York, NY 10036
APA	American Plywood Association Box 11700 Tacoma, WA 98411
ARI	Air-Conditioning and Refrigeration Institute 1501 Wilson Boulevard Arlington, VA 22209
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017

ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
AWI	Architectural Woodwork Institute 2310 South Walter Reed Drive Arlington, VA 22206
AWPA	American Wood-Preservers' Association 7735 Old Georgetown Road Bethesda, MD 20014
AWS	American Welding Society 550 LeJune Road, NW Miami, FL 33135
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60195
DHI	Door and Hardware Institute 7711 Old Springhouse Road McLean, VA 22102
FGMA	Flat Glass Marketing Association 3310 Harrison White Lakes Professional Building Topeka, KS 66611
FM	Factory Mutual System 1151 Boston-Providence Turnpike PO Box 688 Norwood, MA 02062
FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section Washington Navy Yard, Bldg. 197 Washington, DC 20407
GA	Gypsum Association 810 First St. N.E. Suite 510 Washington D.C. 20002
ICBO	International Conference of Building Officials 5360 S. Workman Mill Road Whittier, CA 90601

K+A designstudios, P.C.

---

IEEE	Institute of Electrical and Electronics Engineers 345 East 47th Street New York, NY 10017
IMIAC	International Masonry Industry All-Weather Council International Masonry Institute 815 15 th Street, NW Washington, DC 20005
MIL	Military Specification Navel Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
NAAMM	National Association of Architectural Metal Manufacturers 221 North LaSalle Street Chicago, IL 60601
NCMA	National Concrete Masonry Association 2302 Horse Pen Road Herndon, VA 22071
NEBB	National Environmental Balancing Bureau 8224 Old Courthouse Road Vienna, VA 22180
NEMA	National Electrical Manufacturers' Association 2101 L Street, NW Washington, DC 20037
NFPA	National Fire Protection Association 1 Battery March Park Quincy, MA 02269
NFPA	National Forest Products Association 1250 Connecticut Ave, N.W. #200 Washington, DC 20036
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077
PS	Product Standard US Department of Commerce Washington, DC 20203
SDI	Steel Deck Institute PO Box 9506 Canton, OH 44711
SDI	Steel Door Institute 712 Lakewood Center North 14600 Detroit Avenue Cleveland, OH 44107

K+A designstudios, P.C.

---

SIGM	Sealed Insulating Glass Manufacturers Association 111 East Wacker Driver Chicago, IL 60601
SMACNA	Sheet Metal and Air Conditioning Contractors' National Assoc. 8224 Old Court House Road Vienna, VA 22180
SSPC	Steel Structures Painting Council 4400 Fifth Avenue Pittsburgh, PA 15213
TCA	Tile Council of America, Inc. Box 326 Princeton, NJ 08540
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062
WCLB	West Coast Lumber Inspection Bureau 6980 SW Varns Road Box 23145 Portland, OR 97223
WWPA	Western Wood Products Association 1500 Yeon Building Portland, OR 97204

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01200 PROJECT MEETINGS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Owner's Representative shall conduct Preconstruction Conference and close out review meetings. Contractor is to assure orderly review during progress of work and to assure systematic discussion of problems and will conduct all project meetings throughout the construction period. These will included:
  - 1. Weekly progress review meeting which will include Owner's Representative, and Superintendent, and any necessary Subcontractors.
  - 2. First of Month meetings which will include Architect, responsible sub-consultants for respective agenda items Superintendent, and Owner's Representative.
- B. Owner's Representative, Architect and consultants, project inspectors, and testing personnel will attend as needed.
- C. Related Sections:
  - 1. Section 01311 Network Analysis
  - 2. Section 01340 Shop Drawings, Product Data, and Samples
  - 3. Section 01700 Contract Close-out Procedures
  - 4. Individual Specifications Sections
- D. Contractor's discussions with subcontractors and materials suppliers are Contractor's responsibility and normally are not part of project meetings content.

1.02 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit Contractor to solutions agreed upon in project meetings.

1.03 SUBMITTALS

- A. Agenda Items: To the maximum extent practicable, advise Owner's Representative at least 24 hours in advance of project meetings regarding items to be on agenda.
- B. Contractor shall compile minutes of each project meeting, furnishing copies to Owner's Representative and Architect within seven days of each meeting.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION

3.01 MEETING SCHEDULE

- A. Except as noted below for Preconstruction meeting, project meetings will be held weekly.
- B. Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.02 MEETING LOCATION

- A. Owner's Representative will establish meeting location.

### 3.03 PRECONSTRUCTION MEETING

- A. Preconstruction Meeting will be scheduled to be held within 15 working days after Owner's Representative has issued the Notice to Proceed.
  - 1. In addition to Contractor, representatives of sitework, mechanical, electrical and other major subcontractors shall attend.
  - 2. Contractor shall notify other interested parties and request their attendance.
  - 3. Preconstruction meeting will be held in the Owner's Representative's office.
- B. Minimum agenda: Data shall be distributed and discussed on at least the following items:
  - 1. Organizational arrangement of Contractor's forces and personnel, those of subcontractors, materials suppliers, Architect and consultants.
  - 2. Channels and procedures for communication.
  - 3. Construction Schedule, including sequence of critical work. Review materials that might require long lead times, etc.
  - 4. Contract Documents, including distribution of required copies of original documents and revisions.
  - 5. Processing of shop drawings and other data submitted to Owner's Representative for review.
  - 6. Processing of Bulletins, field decisions, and change orders.
  - 7. Rules and regulations governing performance of Work.
  - 8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.
  - 9. Processing of payment requests.
  - 10. Preliminary discussions of future close-out procedures.

### 3.04 PROJECT MEETINGS

- A. Attendance:
  - 1. As much as possible, assign the same person or persons to represent the Contractor at project meetings throughout progress of Work.
  - 2. Subcontractor, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.
- B. Minimum Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observation, problems and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

### 3.05 CONTRACTOR'S MEETINGS

- A. Conduct meetings with his own forces, subcontractors and suppliers as is required in individual specifications sections.
- B. Notify Owner's Representative in writing of any impending meetings for which the Owner's Representative's input is needed.
- C. Provide written notice minimum of two weeks prior to meeting date and include meeting topic, agenda, location, time and list of expected attendees.
- D. Take meeting minutes and provide copies to Owner's Representative within 3 calendar days after meeting.

### 3.06 CLOSE-OUT MEETINGS

- A. Review Section 01700 regarding Contract Close-out Procedures. Approximately two months prior to Substantial Completion, weekly Project Meetings will include discussion of close-out activities.
- B. Contractor is responsible to invite subcontractors as necessary to review related close-out work.

END OF SECTION



SECTION 01250 DEFINITIONS & EXPLANATIONS

PART 1 GENERAL

1.01 DESCRIPTION

A. Explanation:

This section of the General Requirements defines certain terms used in the specifications and explains the language, format, and certain conventions used in the Project Manual and associated Contract Documents.

B. Related Documents:

Other contract documents directly related to and in some way modified or governed by the General Requirements Division include, but are not necessarily limited to, the following:

1. General Provisions
2. Supplementary Conditions
3. Technical Specifications Sections

C. Limitations of Scope:

The definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the Work to the extent such definitions or explanations are not stated more explicitly in other parts of the Contract Documents.

1.02 DEFINITIONS

A. General:

A substantial amount of the specification language constitutes specific definitions for terms found in the other Contract Documents, including the Drawings which must be recognized as diagrammatic and quantitative in nature and not completely descriptive of the requirements indicated. Certain terms used repetitiously in the Contract Documents are defined generally as follows:

1. Contract Documents:

The Contract Documents consist of the Owner-Contractor Agreement, the Conditions (Provisions) of the Contract (General, Supplementary, & other Conditions), the Drawings, the Specifications and all Addenda issued prior to and all Modifications issued after execution of the Contract.

2. Project Manual:

The Project Manual is a bound volume or volumes, containing the Bidding Requirements and the Contract Documents, (except Drawings, Addenda, and Change Orders). Bidding Documents are not legally part of the Contract Documents (unless specifically enumerated in the Owner-Contractor Agreement), but are bound into the Project Manual for the convenience of the bidders.

3. General Requirement:

The Provisions or Requirements of Division 1 sections and the General Requirements apply to the entire Work of the Contract, and where so indicated, to other elements of Work which are included in the project.

4. Work (capitalized, noun):

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.

5. work (uncapitalized, verb or noun):

Refers to effort or accomplishment.

6. 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", or "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate the reference, and no limitation of location is intended except as specifically noted.

7. Directed, Requested, Authorized, Selected, Approved:

Unless otherwise explained, shall imply: "Directed by the Owner's Representative....Authorized by the Owner's Representative", etc. However, no such implied meaning shall be interpreted as to extend the responsibility of the Owner's Representative into the field of responsibility of the Contractor under the Contract.

8. Refer:

Used to indicate that the subject is defined or specified in further detail at another location in the Contract Documents, or elsewhere as indicated. It shall not be interpreted to require the Contractor to procure, subcontract, or purchase the subject work in any specific manner.

9. Approve:

Where used in conjunction with the response of the Owner's Representative (Contracting Agency) to submittals, requests, applications, inquiries, reports, and claims by the contractor, the meaning shall be held to the limitations of the responsibilities and duties of the Owner's Representative. In no case shall it be interpreted as a release of the Contractor from responsibility to fulfill the requirements of the Contract Documents.

10. Project Site, Jobsite:

The location of and the space available and assigned to the Contractor for the performance of the Work. The extent of the Project Site is shown in the Drawings, and may or may not correspond with the legal description of the land upon which the project is to be built.

11. Shall/Must/Will:

"Shall" is used generally to indicate a direct indicative requirement. Where encountered, "must" shall be interpreted to mean the same as "shall" and neither is to be interpreted to require more or less stringent compliance than the other.

"Will", where encountered in relation to acts or responsibilities of the Contractor, shall be accorded the same meaning as "shall".

12. Furnish:

Used to mean the procurement, delivery to the project site, unloaded, and ready for unpacking, assembly, erection, or installation, as applicable in each instance.

13. Install:

Used to describe operations at the project site including unpacking, assembly, erection, installation, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations, as applicable in each instance.

14. Provide:

Means Furnish and Install, complete and ready for the intended use, as applicable in each instance.

15. Installer:

The entity (person or firm) engaged by the Contractor, his subcontractor, or sub-subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement and understanding that such entities (installers) shall be expert in the operations they are engaged to perform.

16. Shop Drawings:

All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor, his subcontractors, suppliers, or the manufacturers of the products, which illustrate how specific products, assemblies, or systems are fabricated or installed into the Work.

17. Architect, Architect/Engineer:

Generally used interchangeably to denote the professional consultant retained by the Owner to design the project and prepare the Contract Documents; but also for consultation during administration of the Contract, interpretation of Contract Documents, review and evaluation of materials and methods, and general observation of the progress of the Work.

18. Owner's Representative:

The designated representative of the Owner during the construction period to administer the Contract, interpret Contract Documents, review and evaluate materials and methods, and observe and evaluate the progress of the Work.

### 1.03 EXPLANATION

#### A. General:

This series of explanations is provided to assist the user of these specifications and associated Contract Documents to more readily understand the format, language, implied requirements and similar conventions of the content. None of these explanations shall be interpreted to modify the substance of the specified requirements.

#### B. Specification Production:

Portions of these specifications have been produced by editing master specifications and may contain minor inconsistencies. Such deviations are a normal result of this production technique, and no other meaning shall be implied or permitted.

#### C. Format:

The format of principal portions of these specifications can be generally described as follows, although other portions may not fully comply and no particular significance shall be attached to such compliance or non-compliance:

1. For convenience, the basic unit of specification text is a "Section", each unit of which is named and numbered. Sections are organized into related families of sections termed "Divisions", which are recognized as the present industry consensus on uniform organization and sequencing of construction specifications.
2. The section title is not intended to limit the meaning of content of the section, nor to be fully descriptive of the requirements specified therein, nor to be an integral part of the text. Section and Division identification is contained in the right hand portion of the "header" at the top of the page.

#### D. Page Numbering:

1. Pages are numbered independently and sequentially within each section. A new sequence of numbers begins with the beginning of each new section, and is located in the right hand side of the heading on each page. The number of pages in each section is indicated in the Table of Contents.
2. The sequential page number of the document begins with Division 1 and is located at the bottom center of each page. The sequential pages in each section are indicated in the Table of Contents.

#### E. The Three Part Section:

Generally, each section of the specification has been subdivided into three (3) "parts" for uniformity and convenience. They are:

PART 1 GENERAL  
PART 2 PRODUCTS  
PART 3 EXECUTION

In the event additional parts are required for tables, schedules, etc. they will be added in the form of:

K+A designstudios, P.C.

#### PART 4 APPENDIX

These parts do not limit the meaning of, and are not an integral part of, the text which specifies requirements. In some instances one or the other of these parts may not be used in which case it will be so noted as "not used."

F. Language:

Direct imperative language is used generally throughout the specifications, and requirements so expressed are the responsibility of the Contractor, even though the work specified actually may be accomplished by specialty subcontractors hired, retained, or otherwise engaged by the Contractor. Any references to third parties in this regard, shall not be interpreted in any way as to relieve the Contractor of any of his responsibilities under the contractor.

G. Specification Types:

The techniques or types of specification used to record the requirements varies throughout the text, and may include types commonly recognized as "prescriptive," "generic descriptive," "compliance with standards (reference)," "performance," "open," "open multi-product," "closed single product," "proprietary," or a combination of these.

H. Trades, Names:

The use of trade titles such as "carpentry," and degrees of expertise such as "journeyman (men)," implies neither that the work is required to be performed by that specific trade, nor that the level of expertise indicated is recognized as peculiar to membership or nonmembership in any trade or industry association or organization, nor that the specified requirements apply exclusively to work by tradesmen of that corresponding generic name.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01311 NETWORK ANALYSIS

PART 1 GENERAL

1.01 DESCRIPTION

- A. To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Owner's Representative in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare a network analysis system using the Critical Path Method.
- B. Requirements for progress schedule: General Conditions.
- C. Construction period: Form of Agreement
- D. Definitions:
  - 1. "Day", as used throughout the Contract unless otherwise stated, means "calendar day".

1.02 SECTION INCLUDES

- A. References
- B. Quality Assurance
- C. Format
- D. Schedules
- E. Submittals
- F. Review and evaluation
- G. Updating Schedules
- H. Distribution

1.03 RELATED SECTIONS

- A. General Conditions
- B. Supplementary Conditions
- C. Section 01027 Application for Payment Procedures
- D. Section 01200 Project Meetings
- E. Section 01340 Shop Drawings, Project Date, and Samples
- F. Section 01370 Schedule of Values

1.04 REFERENCES

- A. "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry", The Associated General Contractors of America (AGC), Washington, D.C., 1976 edition.
- B. "CPM in Construction Management - Project Management with CPM", James O'Brien, McGraw-Hill Book Company, New York, NY 1984, third edition.

1.05 FORMAT

- A. Listing: Reading from left to right, in ascending order for each activity. Identify each activity with the applicable Specification section number.
- B. Diagram Sheet Size: 24 or 30 in. high x width required.
- C. Scale and Spacing: To allow for notations and revisions.

1.06 SCHEDULES

- A. Prepare network analysis diagrams and supporting mathematical analysis using the Critical Path Method, under concepts and methods outlined in the references list in Article 1.04 above. Show information in such detail that duration times of activities will range normally from one to 15 calendar days.
- B. Diagrams to illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. Illustrate complete sequence of construction by activity, identifying work of separate areas. Provide dates for submittals, including those for Owner furnished items, and return of submittals; dates for procurement and delivery of products; and dates for installation of provision for testing. Provide legend for symbols and abbreviations used.
- D. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identifying for each activity:
  - 1. Preceding and following event numbers
  - 2. Activity description
  - 3. Estimated duration of activity, in maximum 15 day intervals, unless otherwise approved by Owner's Representative.
  - 4. Earliest start date
  - 5. Earliest finish date
  - 6. Actual start date
  - 7. Actual finish date
  - 8. Latest start date
  - 9. Latest finish date
  - 10. Total and free float
  - 11. Monetary value of activity, keyed to Schedule of Values
  - 12. Percentage of activity completed
  - 13. Responsibility
- E. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, of accepting revised completion dates, and recomputation of all dates and float.
- F. Required Sorts: List activities in sorts or groups:
  - 1. By preceding work item or event number from lowest to highest
  - 2. By amount of float, then in order of early start
  - 3. In order of latest allowable start dates.
  - 4. In order of latest allowable finish dates
  - 5. Contractor's periodic payment request sorted by Schedule of Values listing.
  - 6. Listing of activities on the critical path.

- G. Coordinate contents with Schedule of Values in Section 01370.

#### 1.07 SUBMITTALS

- A. Within 10 days after date established in Notice to Proceed, submit proposed preliminary network diagram defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. Submittal of preliminary network diagram shall occur prior to review and payment of any pay requests.
- C. Participate in review of preliminary and complete network diagrams jointly with Owner's Representative.
- D. Within 20 days after joint review of proposed preliminary network diagram, submit draft of proposed complete network diagram for review. Include written certification that major Subcontractors have reviewed and accepted proposed schedule.
- E. Within 10 days after joint review, submit complete network analysis consisting of network diagrams and mathematical analysis.
- F. Submit updated network schedules with each Application for Payment.
- G. Submit four opaque 22"x34" reproductions.
- H. Submit 1 Compact Disc or Flash Drive with file saved as MS Project format. Include updates on CD/Flash Drive also.

#### 1.08 REVIEW AND EVALUATION

- A. Participate in joint review and evaluation of network diagrams and analysis with Owner's Representative at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

#### 1.09 UPDATING SCHEDULES

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update diagrams to graphically depict current status of Work.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Indicate changes required to maintain Date of Substantial Completion.
- E. Submit sorts required to support recommended changes.
- F. Provide narrative report to define problem area, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.

#### 1.10 DISTRIBUTION

- A. Following joint review, distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect, and Owner's Representative.

- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown on Schedules.

PART 2 PRODUCTS ( not used)

PART 3 EXECUTION ( not used)

END OF SECTION

SECTION 01340 SHOP DRAWINGS, PRODUCT DATA & SAMPLES

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Procedures for submittals.
  
- B. Related Work Described Elsewhere:
  - 1. General Conditions:
  - 2. Network Analysis: Section 01311
  - 3. Quality Control: Section 01400
  - 4. Product Options and Substitutions: Section 01630
  - 5. Project Record Documents: Section 01720
  - 6. Operation and Maintenance Data Section 01730

1.02 SHOP DRAWINGS

- A. Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.
- B. Identify field dimensions; show relation to adjacent or critical features or Work or products.
- C. Sheet Size:
  - 1. Minimum: 8 1/2 x 11 in.
  - 2. Maximum: 30 x 42 in.
  - 3. In between: Modules of approximately 8 1/2 x 11 in.
- D. Scale and measurements: Make shop drawing accurately to a scale large enough to show pertinent parts of item and method of connection to Work.
- E. Shop drawings include fabrication, erection and setting drawings, schedule drawings, manufacturer's scale drawings, wiring and control diagrams, cuts or entire catalogs, pamphlets, descriptive literature, performance and test data.
- F. Check drawings and schedules, coordinate them with work of trades involved before submission and indicate their approval.
- G. Identify details by reference to sheet and detail, schedule or room numbers shown on Drawings.

### 1.03 PRODUCT DATA

- A. Submit product data when required by individual Specification Section.
  - 1. Products which are specified in individual Specification Section or on Drawings by manufacturer's name and complete product number do not require submittal or product data.
  - 2. Supply products specified. Indicate on Submittal Schedule manufacturer's name and complete product number of product to be supplied, and reference Specification Section and Article number and Drawings and detail number.
- B. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.
- C. Modify manufacturers' standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

### 1.04 SAMPLES

- A. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating; colors, textures, patterns, for selection. No color selection shall be made until all items needing color selection have been submitted.

When ever color is specified " as selected", submit actual material color samples for Architect's selection.
- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- D. Label each sample with identification required for transmittal letter.
- E. Provide field samples of finishes at Project, at location acceptable to Owner's Representative, as required by individual Specifications section. Install each sample complete and finished. Acceptable finishes in place may be retained in completed work.

### 1.05 MANUFACTURER'S INSTRUCTIONS

- A. Manufacturer's instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing under provision of Section 01400.

### 1.06 CERTIFICATES OF COMPLIANCE

- A. Execute certificates of compliance for specified materials in three copies. Sign certificates by an authorized official of manufacturing company, and list name and address of Contractor,

Project name and location, and quantity and date of shipment. List name and address of testing laboratory and date of tests on copies of lab test reports submitted with certificates.

#### 1.07 CONTRACTOR REVIEW

- A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirement of Contract Documents.
- B. Coordinate submittals with requirements of Work and of Contract Documents.
- C. Apply Contractor's review stamp, signed or initialed certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents, for each sheet of shop drawings, manufacturer's installation instructions and product data, and label each sample to certify compliance with requirements of Contract Documents. Notify in writing at time of submittal, of any deviations from requirements of Contract Documents, with brief explanation describing deviation.
- D. Do not fabricate products or begin work which requires submittals until return of submittal with acceptance.
- E. It is the Contractor's responsibility to coordinate and verify field conditions, with approved shop drawings, prior to construction, in areas requiring shop drawings.

#### 1.08 SUBMITTAL REQUIREMENTS

- A. Submittal Schedule: Within thirty days from receipt of Notice to Proceed, submit two copies of schedule of submittals requiring review to Owner's Representative.
  - 1. Include such items as shop drawings, product data, certificates of compliance, and material samples.
  - 2. Indicate type of item, requirement reference, and submittal dates.
  - 3. Allow 10 calendar days for Owner's Representative's review.
  - 4. Submittals not required will not be reviewed by Architect.
- B. Transmit submittals in accordance with approved progress schedule and in such sequence to avoid delay in the Work or work of other contracts.
  - 1. Transmit far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
  - 2. For shop drawing submittal, schedule shall provide for maximum of 10 shop drawings per calendar week to be submitted for review for each of the mechanical, electrical, structural and architectural disciplines.
- C. Hard copy submittals shall be delivered to Architect's Office. Electronic submittals shall be emailed to Architect's office and Owner's Project Manager.
- D. Transmit submittals in groups containing all information required for complete review.
  - 1. Partial, incomplete submittals will be rejected.

- E. Provide 8 x 4 in. blank space on each submittal for Contractor's and Architect's stamp.
- F. Coordinate submittals into logical grouping to facilitate interrelation of the several items:
  - 1. Finishes which involve selection of colors, textures, or patterns.
  - 2. Associated items which require correlation for efficient function or for installation.
- G. Submit one reproducible transparency and one opaque copy of shop drawings.
- H. Submit number of copies of product data and manufacturer's instructions Contractor requires, plus four copies which will be retained by Owner's Representative (two copies) and Architect and his consultants (two copies).
- I. Submit number of samples specified in individual Specifications Sections.
- J. Submit under accepted form of transmittal letter. Identify Project by title and number. Identify Work and product by Specifications section and Article number.
- K. Maintain submittal log showing status of submittals, make available for Owner's Representative's review upon request.

#### 1.09 RESUBMITTALS

- A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

#### 1.10 DISTRIBUTION

- A. Pick up reviewed copies of submittals at Architect's office when notified.
- B. Duplicate and distribute reproductions of shop drawings, copies of product data, and samples, which bear stamp of approval, to job site file, Record Documents file, Owner's Representative (2 copies), subcontractors, suppliers, and other entities requiring information.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01370 SCHEDULE OF VALUES

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Breakdown of Contract Sum showing values allocated to each of various parts of Work, as specified here and in other provision of Contract Documents.
2. Schedule of values shall be compatible with "continuation sheet" accompanying applications for payment.

B. Related Work Described Elsewhere:

1. General Conditions:
2. Supplementary Conditions
3. Section in Division 1 of this Specifications.

1.02 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of sums described.
- B. When required by Owner's Representative, provide copies of subcontractors or other acceptable data substantiating sums described.

1.03 SUBMITTALS

- A. Submit to Owner's Representative a Schedule of Values for Contractor's Work and subcontracted work in each applicable Section of Specifications, Division 2 through 16 inclusive, with ten days after Notice to Proceed.
- B. Upon Owner's Representative's request, support values with data substantiating correctness.
- C. Schedule of Values, unless objected to by Owner's Representative, shall be used only as basis for Contractor's Applications for Payment.
- D. Meet with Owner's Representative's and determine additional information, if any, required to be submitted.
- E. Secure the Owner Representative's approval of the schedule of values prior to submitting first application for payment.

1.04 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Type schedule on 8 1/2 x 11 in. white paper, Contractor's standard forms and automated printout will be considered for acceptance by Owner's Representative upon Contractor's request. Electronically transmit (via email or flash drive) file saved to MS Excel format. Identify schedule with:
  1. Project title and location.
  2. Name and Address of Contractor.
  3. Date of Submission

K+A designstudios, P.C.

- B. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments during construction.
- C. Follow Table of Contents as format for listing component item:
  - 1. Identify each line item with number and title of respective Section of Specifications.
- D. Under each major item list sub-values of major products or operations.
  - 1. Each line item shall include directly proportional amount of Contractor's overhead and profit.
  - 2. For items on which progress payments will be requested for stored materials, breakdown values into:
    - a. Cost of materials, delivered and unloaded, with taxes paid.
    - b. Total installed value.
- E. Sum of values listed in schedule shall equal total Contract Sum.

#### 1.05 SUB-SCHEDULE OF UNIT MATERIAL VALUES

- A. Submit sub-schedule of unit costs and quantities for products on which progress payments will be requested for stored products.
- B. Form of submittal shall parallel Schedule of Values, with each item identified same as line item in Schedule of Values.
- C. Unit quantity for bulk materials shall include allowance for normal waste.
- D. Break unit values for material down into:
  - 1. Cost of material, delivered and unloaded at Site, with taxes paid.
  - 2. Installation costs, including Contractor's overhead and profit.
- E. Installed unit value multiplied by quantity listed shall equal cost of item in Schedule of Values.
- F. Materials incorrectly stored at the jobsite are subject to damage and may not be included in progress payments as determined by the Owner's Representative.
- G. Final payment value as required by General Conditions.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.01 DESCRIPTION

- A. All material and workmanship shall be subject to inspection, examination, and test by the Owner's Representative at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on. The Owner's Representative shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily corrected, and rejected material shall be satisfactorily replaced with proper material without charge therefor, and the Contractor shall promptly segregate and remove rejected material from the premises. If the Contractor fails to proceed at once with replacement of rejected material and/or correction of defective workmanship, the Owner's Representative may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost thereof to the Contractor, or may terminate the right of the Contractor to proceed as provided in the General Condition.
- B. The Contractor shall provide all facilities, labor, and materials necessary for inspection and tests required by the Contract Documents. All costs for tests required by the Contract Documents shall be paid by the Contractor. The presence on, or absence from, the Contract work site of any Owner's Representative shall not relieve the Contractor of his responsibilities for requirements of the Contract.
- C. Should it be considered necessary or advisable by the Owner's Representative, at any time before final acceptance of the entire work, to make an examination of work already completed by removing or tearing out, the Contractor shall promptly on request furnish all necessary facilities, labor, and materials. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his Subcontractors, the Contractor shall defray all the expenses of such examinations and of satisfactory reconstruction. However, if such work is found to meet the requirements of the Contract, the actual direct cost of labor and material necessarily involved in the examination and replacement plus ten percent (10%) shall be allowed the Contractor and, in addition, if completion of the work has been delayed thereby, he shall be granted a suitable extension of time based on the additional work involved.
- D. Inspection of material and finished articles at the place of production, manufacture, or shipment shall be final except as regards latent defects, departures from specific requirements of the Contract, damage or loss in transit, and fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials and workmanship for final acceptance as a whole or in part shall be made at the site. Nothing contained in this paragraph shall in any way restrict the Contracting Agency's rights under any warranty or guarantee.

K+A designstudios, P.C.

---

- E. Manufactured articles, materials and equipment shall be applied installed, connected, erected, cleaned, and conditioned as per manufacturer's printed directions, unless specified to contrary. The Contractor shall provide at least one set of all manufacturer's installation directions, on the jobsite at all times for inspection information.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01500 TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Temporary heat, water, and electricity.
2. Sanitary facilities.
3. Enclosures such as tarpaulins, barricades, and canopies.
4. Temporary security fencing.
5. Site and interior lighting.
6. Dust control.
7. Traffic control.
8. Security protection provisions.
9. Access barriers.
10. Removal of temporary facilities and controls.

B. Related Work Described Elsewhere:

- |                                  |               |
|----------------------------------|---------------|
| 1. General Conditions            |               |
| 2. Supplementary Conditions      |               |
| 3. Summary of Work               | Section 01010 |
| 4. Construction Cleaning         | Section 01569 |
| 5. Storage and Protection        | Section 01620 |
| 6. Contract Close-out Procedures | Section 01700 |
| 7. Final Cleaning                | Section 01710 |

1.02 REQUIREMENTS NOT INCLUDED

- A. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their own portions of the work are not part of this Section.

1.03 QUALITY ASSURANCE

- A. In addition to compliance with governing regulations and rules, and recommendations of utility companies, comply with specific requirements indicated in these specifications and with applicable local codes and industry standards for construction work.
- B. Comply with provision of Section 01610 Transportation and Handling.
- C. Temporary connections shall be made in an approved manner meeting all applicable codes. Caution shall be taken so systems are not overloaded. Contractor shall take special precautions to keep his temporary connections and lines from being damaged. Temporary connections shall be disconnected and removed prior to completion of Project and returned to original conditions.

1.04 JOB CONDITIONS

A. General:

K+A designstudios, P.C.

---

1. Establish and initiate use of each temporary facility at time first reasonably required for proper performance of Work.
  2. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced need.
- B. Conditions of Use:
1. Install, operate, maintain, and protect temporary facilities in safe, non-hazardous, sanitary, manner and location, protective of persons and property, and free of deleterious effects.
- C. Pay costs for such general services and temporary facilities, except as otherwise specified, until final acceptance with Work unless Owner's Representative makes arrangements for use of complete portions of Work after Substantial Completion in accordance with provisions of General Conditions.

## PART 2 PRODUCTS

### 2.01 ELECTRICITY AND LIGHTING

- A. The Contractor has the option of utilizing:
1. Temporary interior and exterior lighting during construction is to be maintained by Contractor so that work can be properly and safely performed. Special attention shall be given so that stairs, ladders, openings, barricades and other similar items and spaces are adequately lighted.
  2. Conform to applicable provision of governing codes. Maintain temporary wiring in safe manner, utilized to not constitute hazard to persons or property.
  3. Contractor shall be allowed to utilize school power for construction at no charge to contractor.
  4. At completion of construction work remove temporary wiring, lighting and other temporary electrical equipment devices. Disconnect temporary service to Owner's office and temporary toilet prior to final completion, when required by Owner's Representative.

### 2.02 WATER

- A. Contractor has the option to utilize on-site water from existing hose bibs.
- B. Furnish drinking water with suitable containers and cups for use of employees. Conveniently locate drinking water dispensers in areas where Work is in progress.

### 2.03 SANITARY FACILITIES

- A. Provide and maintain adequate temporary toilet and hand washing facilities, approved by regulating authorities, throughout construction for all personnel connected with Work.
- B. Locate where directed when work is started and maintain in sanitary condition at all times supplied with adequate amounts of tissue, subject to inspection and approval of Owner's Representative.

- C. Provide separate facilities for male and female personnel when both sexes are working at Project.
- D. As soon as conditions allow, temporary toilets may, upon approval of Owner's Representative, be located outside near building entries.
- E. Remove temporary facilities when directed and disinfect premises.

#### 2.04 STORAGE AND SHOP

- A. Contractor shall provide temporary storage and shop rooms and /or enclosures that may be required at site for safe and proper storage of tools, materials, etc. Located such facilities only in locations approved by Owner's Representative and so as not to interfere in any way with proper installation and completion of other work.
- B. During progress of Work, materials shall be neatly stacked at such points as Owner's Representative may direct and shall be properly cared for and protected from weather and theft.
- C. Contractor shall store construction material and equipment within boundaries of designated areas. Storage of gasoline or similar fuels shall conform to NFPA regulations and local fire marshal regulations and shall be confined within definite boundaries apart from buildings as approved by authorities having jurisdiction.

### PART 3 EXECUTION

#### 3.01 MAINTENANCE

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of Work.
- B. Remove such temporary facilities and controls as rapidly as progress of Work will permit, or as directed by Owner's Representative.

#### 3.02 USE OF TEMPORARY FACILITIES

- A. Temporary facilities shall be made available for use by workmen and subcontractors employed on Project and Owner's Representative, subject to reasonable direction by Contractor as to their proper and most efficient utilization.

#### 3.03 ENCLOSURES

- A. Security:
  - 1. Secure building against unauthorized entrance at times personnel area not working.
- B. Access Provisions:
  - 1. Provide ramps, stairs, ladders, and similar temporary access elements as reasonably required to perform Work and facilitate inspection during installation.
  - 2. Comply with reasonable requests of governing authorities performing inspections.
  - 3. When permanent stairs are available for access, during construction, cover finished surfaces and maintain free from damage and deterioration through substantial completion.

### 3.04 PROTECTION OF INSTALLED WORK

- A. Provide temporary protection for installed products in accordance with requirements specified in Section 01620 and as follows. Control traffic in immediate area of installed products to minimize damage.
- B. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects, and storage.
- C. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn, on concrete paving, and landscaped areas.
- D. Prohibit and take necessary precautions to prevent oil, gas and other liquids from vehicles and equipment from discharging onto concrete and asphalt concrete pavement.

### 3.05 TRAFFIC

- A. Conduct operations and removal of debris to ensure minimum interference with adjacent occupied facilities.
- B. Do not close or obstruct completed areas without permission from Owner's Representative. Provide alternate and safe routes around closed or obstructed traffic ways if required.

### 3.06 SECURITY AND PROTECTION PROVISIONS

- A. Provide temporary security and protection including, but not limited to; fire protection, barricades, warning signs/lights, personnel security program (theft prevention), environmental protection, and similar provision intended to minimize property losses, personal injuries, and claims for damages at Site.
- B. Unauthorized Entry:
  - 1. Maintain provision for closing and locking building during non-working hours.

### 3.07 REMOVAL

- A. Completely remove temporary materials and equipment when use is no longer required.
- C. Clean and repair damage caused by temporary installations or use of temporary facilities. Restore any installed facilities used for temporary services to specified, or original condition.

### 3.08 CLEANING

- A. Comply with requirement specified in Section 01569.
- B. Maintain the public road and access to the Site in a clean condition. Remove the mud, dirt, rocks, etc. from the tires of vehicles before they exit the Site.

END OF SECTION

SECTION 01569 CONSTRUCTION CLEANING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Cleaning and disposal of waste materials, debris, and rubbish during construction.
  
- B. Related Work Described Elsewhere:
  - 1. General Conditions: Division 1
  - 2. Final Cleaning Section 01710
  - 3. Individual Specification Sections: Specific cleaning for Product or Work.

PART 2 PRODUCTS

2.01 EQUIPMENT

- A. Provide covered containers for deposit of waste materials, debris, and rubbish.

PART 3 EXECUTION

3.01 CLEANING

- A. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Remove scrap materials, rubbish and trash daily from in and about building. Do not permit scrap materials, rubbish and trash to be scattered on adjacent areas.
  
- B. Maintain the public road and access to the site in a clean conditions. Remove the mud, dirt, rocks, etc. from the tires of vehicles before they exit the Site.
  
- C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to closing the space.
  
- D. Periodically clean interior areas to provide suitable conditions for work.
  
- E. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.
  
- F. Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.

3.02 DISPOSAL

- A. Remove waste material, debris, and rubbish from site periodically and dispose of off-site.

END OF SECTION



SECTION 01600 MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Products
  
- B. Related Work Described Elsewhere:
  - 1. Instructions to Bidders:
  - 2. General Conditions: Division 1
  - 3. Quality Control: Section 01400

1.02 PRODUCTS

- A. Products: Means new materials, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
  
- B. Provide interchangeable components of the same manufacture, for similar components.
  
- C. No product or material shall be used as a building material in this project which contains any asbestos.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01610 TRANSPORTATION AND HANDLING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Protection of products schedule for use in Work.
- B. Related Work Described Elsewhere:
  - 1. General Conditions
  - 2. Additional procedures as specified in other section of these Specifications.

1.02 QUALITY ASSURANCE

- A. Include procedures required to assure full protection of work and materials.

1.03 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Owner's Representative, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.04 PACKAGING, TRANSPORTATION

- A. Require supplier to package products in boxes or crates for protection during shipment, handling, and storage. Protect sensitive products against exposure to elements and moisture, including ocean barging.
- B. Protect sensitive equipment and finishes against impact, abrasion, and other damage. Temperature sensitive products, such as paint, shall be protected from freezing during shipment.
- C. Arrange deliveries of products in accordance with construction progress schedules. Allow time for inspection prior to installation.
- D. Coordinate deliveries to avoid conflict with work; conditions at site; limitations on storage space; availability of personnel and handling equipment; and Owner's use of premises.
- E. Deliver products to job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from job site, and promptly replace with material meeting specified requirements, at no additional cost to Owner.
- F. Owner's Representative may reject as non-complying such material and products that do not bear identification satisfactory to the Owner's Representative as to manufacturer, grade, quality, and other pertinent information.
- G. Clearly mark partial deliveries of component parts of equipment. Identify equipment and contents to permit easy accumulation of parts and facilitate assembly.

- H. Immediately on delivery inspect shipment to ensure:
  - 1. Product complies with requirement of Contract Documents and reviewed submittals.
  - 2. Quantities are correct.
  - 3. Accessories and installation are correct.
  - 4. Containers and packages are intact and labels are legible.
  - 5. Products are protected and undamaged.

#### 1.05 PRODUCTS

- A. Provide equipment and personnel to handle products, including those provided by Owner, by methods to prevent soiling and damage.
- B. Provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.
- C. Handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designed lift points.

#### 1.06 PROTECTION

- A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred and suitably protected until accepted by Owner's Representative.

#### 1.07 REPAIRS AND REPLACEMENTS

- A. In event of damage, promptly make replacement and repairs to approval of and at no additional cost to Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by Owner to justify an extension in Contract Time.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01620 STORAGE AND PROTECTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Storage and protection of products scheduled for use in Work.

1.02 QUALITY ASSURANCE

- A. Include within Contractor's quality assurance program such procedures as are required to assure full protection of Work and materials.

1.03 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Owner's Representative, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.04 STORAGE - GENERAL

- A. Store products, immediately on delivery, in accordance with manufacturer's instruction, with seals and labels intact. Protect until installed.
- B. Arrange storage in manner to provide access for maintenance of stored items and for inspection.

1.05 ENCLOSED STORAGE

- A. Store products, subject to damage by elements, in substantial, weather-tight enclosures.
- B. Maintain temperature and humidity within ranges stated in manufacturer's instruction and/or individual technical specifications section.
- C. Provide humidity control and ventilation for sensitive products as required by manufacturer's instructions and as necessary to protect product.
- D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

1.06 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store loose granular materials in clean solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
- D. Provide surface drainage to prevent erosion and ponding of water.
- E. Prevent mixing of refuse, chemically injurious materials, and liquids.

1.07 MAINTENANCE OF STORAGE

- A. Periodically inspect stored products on a schedule basis.
- B. Verify storage facilities comply with manufacturer's product storage requirements.
- C. Verify manufacturer required environmental conditions are maintained continually.

1.08 MAINTENANCE OF EQUIPMENT STORAGE

- A. For mechanical and electrical equipment in long-term storage, provide manufacturer's service instructions to accompany each item, with notice of enclosed instructions shown on exterior of package.
- B. Service equipment on regularly scheduled basis, maintaining log of services; submit as record document.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01630 PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
1. Contractor's options in selection of products.
  2. Products List
  3. Requests for Substitution Form.
- B. Related Work Described Elsewhere:
1. Instructions to Bidders
  2. Substitution Request Form
  3. General Conditions
  4. Summary of Work: Section 01010
  5. Reference Standards: Section 01090
  6. Shop Drawings, Product Data, and Samples: Section 01340
  7. Project Record Documents: Section 01720
  8. Operation and Maintenance Data: Section 01730

1.02 OPTIONS

- A. Products Specified by Reference Standard or by Description Only: Any product meeting those standards.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution a minimum of 10 days prior to Bid for any manufacturer not specifically named. Following Proposal opening, only products of named manufacturers meeting specifications or approved substitutions shall be allowed.
- C. Products Specified by Naming Only One or More Manufacturers with "No Substitution" statement: Products of named manufacturers meeting specifications; no substitution allowed.

1.03 PRODUCTS LIST

- A. Within 15 days after date of Notice to Proceed, transmit three copies of list of major products which are proposed for installation, including name of manufacturer.
- B. Tabulate products by Specifications Section number, title and Article number.
- C. For Products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- D. Owner's Representative will reply in writing within 10 days stating whether there is reasonably objection to listed items. Failure to object to listed items shall not constitute waiver of requirements of Contract Documents.

#### 1.04 LIMITATIONS ON SUBSTITUTIONS

- A. Instructions to Bidder govern terms for submitting request for substitutions under requirements specified in this Section.
- B. Requests for substitutions after Contract Award may be considered only in proven cases of product unavailability through no fault of Contractor.
- C. Substitutions will not be considered when acceptance will require substantial revision of Bidding or Contract Documents.
- D. Do not order or install substitute products without written acceptance.
- E. Two requests for substitution for each product will be considered. When substitution is not accepted, provide specified product.
- F. Owner's Representative and Architect will determine acceptability of substitutions.

#### 1.05 REQUESTS FOR SUBSTITUTIONS

- A. Submit substitution requests using a Substitution Request Form. Substitution requests will not be reviewed without an accompanying fully executed Substitution Request Form.
- B. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.  
  
Submit samples, shop drawings from prior jobs, product data, manufacturer's installation instructions, and certified test results attesting to proposed product equivalence.
- C. Identify product by Specification 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.
- D. Attach product data as specified in Section 01340.
- E. List similar project using product, dates of installation, and names with numbers of Owner and Architect.
- F. Give itemized quality and performance comparison between proposed substitution with specified product, listing variations, and reference to Specification Section and Article numbers. Base comparison on tests and criteria specified, and with specified manufacturer's performance criteria when tests and criteria are not otherwise specified.
- G. List availability of maintenance services and replacement materials.
- H. State effect of substitution on construction schedule, and changes required in other work or products.
- I. Forms that are incomplete or incorrectly filled out will be rejected.

1.06 BIDDER REPRESENTATION

- A. Request for substitution constitutes representation that Bidder:
1. Has investigated proposed product and has determined that it meets or exceed the quality level of specified product.
  2. Will provide same warranty for substitution as for specified product.
  3. Will coordinate installation and make changes to other Work which may be required for work to be complete with no additional costs to Owner.
  4. Waives claims for additional costs or time extension which may subsequently become apparent.
  5. Will reimburse Owner for review or redesign service associated with re-approval by authorities.

1.08 SUBMITTAL PROCEDURES

- A. Submit five copies of the Request for Substitution Form with attachments. Limit each request to one proposed substitution.
- B. Owner's Representative and Architect will review Contractor's request for substitutions with reasonable promptness.
- C. During bidding period, Owner will record acceptable substitutions in Addenda.
- D. For accepted products, submit shop drawings, product data, and samples under provisions of Section 01340.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

K+A designstudios, P.C.

**SUBSTITUTION REQUEST FORM**

TO: K+A designstudios  
130 Trading Bay Rd, Suite 330  
Kenai, AK 99611  
(907) 283-3698 FAX (907) 283-9083

PROJECT: **Chapman Elementary School Window-Wall and Siding Replacement  
Anchor Point, Alaska**

SPECIFIED ITEM:

Section	Paragraph	Description
---------	-----------	-------------

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data area clearly identified.

Attached data also includes description of changes to Contract Documents which proposed substitution will require for its proper installation.

The undersigned states that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.
2. The undersigned will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.

Submitted by:

Signature \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

Telephone \_\_\_\_\_

For use by Design Consultant:

Accepted  Accepted as noted

Not Accepted

By: \_\_\_\_\_

Date: \_\_\_\_\_

Remarks: \_\_\_\_\_

END OF SECTION

SECTION 01700 CONTRACT CLOSE-OUT PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Administrative provisions for Substantial Completion and Final Acceptance.

B. Related Work Described Elsewhere:

1. General Conditions:
2. Summary of Work: Section 01010
3. Applications for Payment Section 01027
4. Temporary Facilities and Temporary Controls Section 01500
5. Final Cleaning Section 01710
6. Project Record Documents Section 01720
7. Operations and Maintenance Data Section 01730
8. Warranties and Bonds Section 01740
9. Spare Parts and Maintenance Materials Section 01750

1.02 SUBSTANTIAL COMPLETION

- A. Advise Owner's Representative of pending insurance change-over requirements.
- B. When Contractor considers Work or designated portion of Work is substantially complete, submit written notice with list of items to be completed or corrected.
  1. Submit formal written request for Substantial Completion Inspection.
  2. Contractor shall submit Certificate of Occupancy issued by local Building Official with the request for Substantial Completion Inspection.
- C. Should Owner Representative's inspection find Work is not substantially complete, he will promptly terminate the inspection, and notify Contractor in writing, listing observed deficiencies.
- D. Contractor shall remedy deficiencies and send a second written notice of substantial completion.
- E. When Owner's Representative finds Work is substantially complete he will prepare a Certificate of Substantial completion in accordance with provisions of General Conditions.

1.04 FINAL COMPLETION

- A. When Contractor considers Work is complete, submit written certification:
  1. Contract Documents have been reviewed.
  2. Work has been inspected for compliance with Contract Documents.
  3. Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected.
  4. Equipment and systems have been tested, adjusted, and balanced, and are fully operational.
  5. Operation of systems has been demonstrated to Owner's Personnel.
  6. Work is complete and ready for final inspection.

- B. Should Owner's Representative inspection find Work incomplete, he will promptly notify Contractor in writing listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second certification of final completion.
- D. When Owner's Representative finds work is complete, he will consider close-out submittals.

#### 1.05 REINSPECTION FEES

- A. Should status of completion of Work require re-inspection by Owner's Representative due to failure of Work to comply with Contractor's claims on initial inspection, Owner will deduct the amount of his expense, including but not necessarily limited to Owner's Representative compensation for re-inspection services from final payment to Contractor.

#### 1.06 CLOSE-OUT SUBMITTALS

- A. Evidence of Compliance with Requirements of Governing Authorities:
  - 1. Certificate of Occupancy
  - 2. Certificates of Inspection required for mechanical and electrical systems.
- B. Project Record Documents: Under provision of Section 01720.
- C. Operation and Maintenance Data: Under provisions of Section 01730.
- D. Warranties and Bonds: Under provisions of Section 01740.
- E. Spare Parts and Maintenance Materials: Under provisions of Section 01750.
- F. Keys and Keying Schedule: Under provisions of Section 08700.
- G. Evidence of Payment and Release of Liens: In accordance with Conditions of the Contract.
- H. Consent of Surety to Final Payment.
- I. Certificates of Insurance for Products and Completed Operations: In accordance with Supplementary Conditions.

#### 1.07 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Submit final statement reflecting adjustments to Contract Sum indicating:
  - 1. Original Contract Sum
  - 2. Previous Change Orders
  - 3. Changes Under Allowances
  - 4. Changes Under Unit Prices
  - 5. Deductions for Uncorrected Work
  - 6. Deductions for Liquidated Damages
  - 7. Deductions for Re-inspection Fees
  - 8. Other Adjustments to Contract Sum
  - 9. Total Contract Sum as adjusted.
  - 10. Previous Payments
  - 11. Sum Remaining Due

K+A designstudios, P.C.

---

- B. Owner's Representative will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by change orders.

1.08 APPLICATION FOR FINAL PAYMENT

- A. Submit application for final payment in accordance with provisions of Conditions of the Contract.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01710 FINAL CLEANING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Final Cleaning of Project.

B. Related Work Described Elsewhere:

1. General Conditions
2. Construction Cleaning: Section 01569
3. Contract Close-out Procedures: Section 01700
4. Individual Specifications Section: Specific cleaning of product or work.

1.02 CLEANING

- A. Execute cleaning prior to inspection for Substantial Completion of the Work.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

- A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 EXECUTION

3.01 CLEANING

- A. In addition to removal of debris and cleaning specified in other section, clean interior and exterior exposed-to-view surfaces.
- B. Remove temporary protection and labels not required to remain.
- C. Clean finishes free of dust, stains, films, and other foreign substances.
- D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.
- E. Vacuum clean carpeted and similar soft surfaces.
- F. Clean, damp mop, wax, and polish resilient and hard-surface floors as specified.
- G. Clean surfaces of equipment, remove excess lubrication.
- H. Clean plumbing fixtures, food service equipment, and toilet accessories to a sanitary condition.

- I. Clean permanent filters of ventilation equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers and coils when units have been operated without filters during construction.
- J. Clean light fixtures and lamps.
- K. Maintain cleaning until Substantial Completion.
- L. Remove waste, foreign matter, and debris from roofs, gutters, area ways, and drainage systems.
- M. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.
- N. Owner will provide final cleaning of interiors after Substantial Completion, except that items not adequately cleaned prior to Substantial Completion shall be re-cleaned prior to final inspection. Provide access and coordinate with Owner's personnel at a time agreeable to both parties.

END OF SECTION

SECTION 01720 PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Maintenance of Record Document and samples.
  - 2. Submittal of Record Documents and samples.
  
- B. Related Work Described Elsewhere:
  - 1. Field Engineering: Section 01050
  - 2. Shop Drawings, Product Data and Samples Section 01340
  - 3. Contract Close-out Procedures Section 01700
  - 4. Operation and Maintenance Data Section 01730
  - 5. Individual Specifications Sections:  
Manufacturer's certificates and certificates of inspection.
  
- C. The Contractor shall maintain on the jobsite one complete set of drawings and specifications on which all items located at jobsite and all changes of material, equipment, or dimensions shall be recorded and kept current on a daily basis and shall be made available to the Owner's Representative at all times. This shall include all work of the Contractor and Subcontractors. **Each progress pay request will not be processed until Owner's Representative determines that the Contractor has kept the "As-Built" drawings and specifications as specified.**

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. In addition to requirements in General Conditions, maintain at the site for Owner's Representative 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
  
- B. Store Record Documents and samples in Field Office apart from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
  - 1. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff.
  
- C. Label and file Record Documents and samples in accordance with Section number listing in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, printed letters.
  
- D. Maintain Record Document in a clean, dry and legible condition. Do not use Record Documents for construction purposes.

- E. In the event of loss of recorded data, use means necessary to again secure the data to the Owner's Representative approval.
- F. Keep Record Documents and samples available for inspection by Owner's Representative.

#### 1.04 RECORDING

- A. Record information on a set of blue line opaque drawings, and in a copy of a Project Manual, provided by Owner's Representative.
- B. Provide felt tip parking pens, maintaining separate colors for each major system, for recording information.
- C. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
  - 1. Make entries within 24 hours after receipt of information that the change has occurred.
- D. Contract Drawings and Shop Drawing: Legibly mark each item to record actual construction, including:
  - 1. Measured depths of elements of foundation in relation to finish first floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surfaces improvements.
    - a) Locate with actual dimensions to building walls and corners, buried and concealed wiring and piping.
    - b) Show end of run, changes in direction, valves and splice boxes.
    - c) Record average depth relating to building datum.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction. Show on Record Drawings, the centerline of each run.
    - a) Clearly identify the item by accurate note such as "cast iron drain," "galv. water," etc.
    - b) Show, by symbol or note, the vertical location of the item ("under slab," "in ceiling plenum," "exposed," etc.).
    - c) Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
  - 4. Field changes of dimension and detail.
  - 5. Changes made by Modifications.
  - 6. Details not on original Contract Drawings.
  - 7. References to related shop drawings and Modifications.
- E. Specifications: Legibly mark each item to record actual construction, including:
  - 1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.
  - 2. Changes made by Addenda and Modifications.
- F. Other Documents: Maintain manufacturer's certifications and inspection certifications required by individual Specifications sections.

K+A designstudios, P.C.

---

1.05 SUBMITTALS

- A. At Contract close-out, deliver Record Documents and samples under provisions of Section 01700.
- B. Transmit with cover letter in duplicate, listing:
  - 1. Date
  - 2. Project Title and Number
  - 3. Contractor's name, address and telephone number
  - 4. Number and title of each Record Document.
  - 5. Signature of Contractor or authorized representative.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01730 OPERATING AND MAINTENANCE DATA

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Format and content of manuals.
  - 2. Instruction of Owner's personnel.
  - 3. Schedule of submittals.
  
- B. Related Work Described Elsewhere:
  - 1. Shop Drawings, Product Data, and Samples Section 01340
  - 2. Quality Control: Section 01400
  - 3. Project Record Documents: Section 01720
  - 4. Warranties and Bonds: Section 01740
  - 5. Individual Specifications Section: Specific requirements for operation and maintenance data.

1.02 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8 1/2 x 11 in. three-ring binders with hardback, cleanable, plastic covers; two in. maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project, identify subject matter of contents.
- D. Arrange content under direction of Owner's Maintenance Department. Coordinate with Owner's personnel one week prior to assembly of manuals.
- E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Provide with reinforced punched binders tab. Bind in with text; fold larger drawings to size of text pages.

#### 1.05 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project, names, addresses, and telephone number of Owner's Representative, 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 (by highlighting, etc. each sheet to clearly identify specific products and component model numbers of equipment and materials used, and data applicable to installation. Delete inapplicable information.
  - 1. Furnish a separate complete set of approved product data, in file folders for each Section, with specification item number recorded on folder. Assemble in cardboard "bankers box", in section number sequence. Turn over to City of Kenai Public Works Department.
- 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.
  - 1. Furnish a complete set of shop drawings, as installed, and turn over to the Kenai Peninsula Borough, Public Works Department. Fold and place in folders as above for product data, with Drawing and Specification item number recorded on folder. Assemble in same cardboard "banker's box" as above, in Section number sequence.
- E. Type 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: As specified in Section 01740.

#### 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 reordering custom manufactured products.
  - 1. Furnish a complete list (room by room) of all paint used. List is to include: paint Manufacturer, Manufacturer's color codes used (by area), and the name, address and phone number of supplier.
  - 2. Furnish a complete list (room by room) of all floorcovering products used. List is to include: type of floorcovering, manufacturer, manufacturer's color codes used (by area), and the name, address and phone number of Installer.
  - 3. Furnish a complete list of all roofing materials used.
- 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 Section.
- E. Provide a listing in Index for design data, with tabbed fly sheet and space for insertion of data.

#### 1.07 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, perform instructions for other seasons within six months.
- 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.

#### 1.08 SUBMITTALS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Owner's Representative will review draft and return one copy with comments.
- B. Submit one copy of completed volumes in final form 15 days prior to final inspection. Copy will be returned after final inspection, and after review by Owner's Maintenance Department and with Owner's Representative comments. Revise content of documents as required prior to final submittal.
- C. Submit six copies of revised volumes of data in final form within ten days after final inspection.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION



SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Preparation and submittal
2. Time and schedules of submittals

B. Related Work Described Elsewhere:

1. Instructions to Bidders:
2. General Conditions:
3. Contract Close-out Procedures Section 01700
4. Operation and Maintenance Data Section 01730
5. Individual Specifications Section: Warranties required for specific products or Work.

1.03 FORM OF SUBMITTALS

- A. Bind in commercial quality, 8-1/2 x 11 in. three ring side binders with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible principal.
- C. Table of Contents: Neatly typed, in the sequence of index to Project Manual, with each item identified with its Section, and name of product or work item. Provide complete information for each of:
  1. Product or work item
  2. Supplier with name of principal, address and telephone number
  3. Date of beginning of warranty or bond
  4. Duration of warranty or bond
  5. Provide information for Owner's personnel:
    - a) Proper procedure in case of failure.
    - b) Instances which might affect validity of warranty or bond.
  6. Contractor, name of responsible principal, address and telephone number.
- D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address and telephone number of responsible principal.

1.04 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item or work. Except for items put into use with Owner's Representative's permission, leave date of beginning of time of warranty until the Date of Substantial Complete is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

1.05 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with Owner's Representative's permission, submit documents within ten days after acceptance.
- B. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
- C. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

SECTION 01750 SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
  - 1. Products required.
  - 2. Storage and delivery of products.
  
- B. Related Work Described Elsewhere:
  - 1. Storage and Protection Section 01620
  - 2. Contract Close-out Procedures Section 01700
  - 3. Operation and Maintenance Data Section 01730
  - 4. Individual Specifications Section: Specific requirements for operation and maintenance data.

1.02 PRODUCTS REQUIRED

- A. Provide quantities of products, spare parts, maintenance tools, and maintenance materials specified in individual sections to be provided to Owner, in addition to that required for completion of Work.
  
- B. Products: Identical to those installed in the work. Include quantities in original purchase from supplier or manufacturer to avoid variations in manufacture.

1.03 STORAGE, MAINTENANCE

- A. Store products with products to be installed in the Work, under provisions of Section 01620.
  
- B. After delivery of products to site, maintain spare products in same space and condition as products to be installed in the Work.
  
- C. Maintain spare products in original containers with labels intact and legible, until delivery to Owner.

1.04 DELIVERY

- A. Coordinate with Owner's Representative : Deliver and unload spare products to Owner at Project site and obtain receipt prior to final payment. After delivery, Owner will handle and store products.
  
- B. For portions of Project accepted and occupied by Owner prior to Substantial Completion, deliver a proportional part of spare products to Owner; obtain receipt.
  
- C. Provide spare parts information for each different item of equipment furnished including:
  - 1. A complete list of parts and supplies and the name and address of a supplier.
  - 2. A list of parts and supplies that are either normally furnished at no extra cost with the purchase of the equipment, or specified to be furnished as part of the contract.
  - 3. A list of additional items recommended by the manufacturer to ensure efficient operation for 180 days.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

END OF SECTION

## SECTION 02 82 13

## ASBESTOS REMOVAL AND DISPOSAL

### PART 1 -GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. The work requires the disturbance, demolition, removal and disposal of the following asbestos-containing materials (ACM) from Chapman Elementary School as specified herein. All work is planned to be performed from the exterior of the school. Critical barriers shall be installed inside of the school at all exterior walls within project area.

1. Cement Board
2. Window Glazing

Contractor is to refer to demo drawings for locations of materials to be removed or disturbed.

- B. In addition to the above materials, the following materials are located in other areas inside of the building, and may require disturbance for auxiliary support. Not all ACM is to be removed from these areas, only that required to complete the project work need be removed:

1. Joint compound in gypsum wallboard systems.
2. Heating and domestic water pipe insulation concealed above ceilings and behind walls.
3. Floor tile and mastic beneath carpeting.
4. Duct liner in furnace heater ducting.
5. High temperature gaskets.

- C. It is the contractor's responsibility to remove and dispose of all ACMs affected by the project from the site in accordance with applicable regulations. The contractor shall immediately notify the owner if other ACM or additional quantities are discovered. Quantities of materials removed shall be documented on a daily basis and shall include all materials removed and locations, in the units used on the drawings. Unit pricing shall be provided in the bid for all identified hazardous material in case additional quantities are discovered.

- D. Disturbance of asbestos-containing materials required for this project typically will fall within different classes of asbestos work depending on the Contractor's means and methods. HEPA vacuuming and/or wet wiping shall be used to immediately clean up all dust and debris generated during the work regardless of the work classification.

- E. Asbestos, lead and other hazardous materials are present in the building that may impact the work of all trades. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. This notification is provided in accordance with EPA and OSHA requirements.

- F. Asbestos-containing materials may have come loose and fallen onto or into, floors, ceilings, walls, chases, wall cavities or mechanical, electrical and structural system components. The Contractor shall immediately notify the Owner if and when they

encounter worn, damaged, or deteriorated ACM as evidenced by dust or debris adjacent to ACM materials.

- G. Work may be required while faculty and students are occupying the building. Work during occupied periods involving disturbance of asbestos-containing materials inside the building shall be performed using critical barriers and negative air pressure enclosures. Access to work area from within the building shall be blocked to prevent unauthorized or inadvertent entry by students or faculty. Access to work area shall be secured by lock when work is not ongoing.
- H. All work shall comply with Environmental Protection Agency (EPA) AHERA standard, 40 CFR 763. Clearance sampling is required if the necessary disturbance of asbestos-containing material is not classified as "Small-Scale, Short-Duration" work as defined in 40 CFR 763, and is not required for work that only involves the disturbance of dusts with asbestos. Visual inspections are required for all work disturbing asbestos. If additional clearances are necessary, the contractor is required to pay all additional costs of visual inspections and clearance testing beyond the number noted above. Clearance air samples shall include a minimum of five (5) Transmission Electron Microscopy (TEM) samples from each affected space, taken using aggressive methods as outlined in Appendix A to 40 CFR 763 and analyzed in accordance with 40 CFR 763.90.

## 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02 83 33 Lead Removal / Disturbance

## 1.3 DEFINITIONS AND ABBREVIATIONS: Definitions and abbreviations are provided in the applicable publications listed in Paragraph 1.4 of this section.

## 1.4 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced.

- A. General Requirements: All work shall be performed in compliance with the International Building, Fire, Fuel Gas, Mechanical, Residential, Energy Conservation and Administrative Code; Uniform Plumbing Code; the National Electrical Code; and the publications listed in this section that are in effect at the time of the bidding of this contract.
- B. Title 29 Codes of Federal Regulations (CFR), Department of Labor (USDOL)
  - Part 1910 General Occupational Safety and Health Standards
  - Part 1926 Safety and Health Regulations for Construction
- C. Title 40 CFR, Environmental Protection Agency (EPA)
  - Part 61 National Emission Standards for Hazardous Air Pollutants
  - Part 311 Worker Protection Part 763 Asbestos
- D. Title 49 CFR, Department of Transportation (DOT)
  - Part 171 General Information, Regulations and Definitions
  - Part 172 Hazardous Materials Communication and Regulations
  - Part 173 General Requirements for Shipments and Packaging
  - Part 177 Carriage by Public Highway

- Part 178 Specifications for Packaging
- Part 382 Requirements for Drug Testing
- Part 383 Commercial Driver's License Standards
  
- E. State of Alaska Administrative Codes (AAC)
  - 8 AAC 61 Occupational Safety and Health Standards
  - 18 AAC 60 Solid Waste Management
  
- F. State of Alaska Statutes
  - AS 18.31 Health and Safety –Asbestos
  - AS 45.50.477 Titles Relating to Industrial Hygiene
  
- G. Public Law 101-637  
Asbestos School Hazard Abatement Reauthorization Act
  
- H. Federal Standards
  - 313D Material Safety Data Sheets
  
- I. American National Standard Institute (ANSI)
  - Z9.2 Local Exhaust Systems
  - Z87.1 Eye and Face Protection
  - Z88.2 Practices for Respiratory Protection
  
- J. American Society for Testing and Materials (ASTM)  
D-4397 Polyethylene Sheeting
  
- K. International Code Institute International Building (IBC), Fire, Fuel Gas, Mechanical, Residential, Energy Conservation and Administrative Codes Current Standards
  
- L. National Fire Protection Association (NFPA) NFPA 701 Fire Tests for Flame Resistant Textiles and Films
  
- M. National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Current Edition
  
- N. Underwriters Laboratories (UL)  
UL 586 High-Efficiency, Particulate, Air (HEPA) Filter Units

## 1.5 QUALITY ASSURANCE

- A. On-site Observation:
  - 1. The safety and protection of the Contractor's employees, sub-contractor's employees, Owner's employees, the facility, and the public is the sole responsibility of the Contractor.
  - 2. The Owner, the Owner's Representative or representatives of State or Federal agencies may make unannounced visits to the site during the work. The contractor shall make available two complete sets of clean, protective clothing for such visitor use. If the work requires the use of PAPR or Supplied Air Respirators, the contractor shall provide respirators to the visitor to ensure compatibility with fresh batteries or supplied air system. It is the visitor's responsibility to ensure medical qualification, training, and current "fit test" prior to using any respirator provided by the Contractor.
  - 3. If the Owner or agency visitor determines that practices are in violation of applicable

regulations, they will immediately notify the Contractor that operations must cease until corrective action is taken. Such notification will be followed by formal confirmation.

4. The Contractor shall stop work after receiving such notification. The work may not be restarted until the Contractor receives written authorization from the Owner.
5. All costs resulting from such a stop work order shall be borne by the Contractor and shall not be a basis for an increase in the contract amount or an extension of time.

B. Air Monitoring: Air monitoring during the work shall be performed as follows:

1. The Contractor shall hire Independent Testing Laboratories to collect and evaluate all air samples that are the responsibility of the Contractor. The Contractor shall direct its laboratories, in writing, to release air monitoring data, and all other pertinent data and records, to the Owner. A copy of this written direction shall be submitted to the Owner along with the information required by Paragraph 1.13 of this Specification.
2. The Contractor shall be responsible for monitoring its employees for potential exposure to airborne asbestos fibers as required by this specification and all applicable regulations.
3. The Contractor shall be responsible for work area monitoring and environmental monitoring outside the work area as required by this specification.
4. The Owner may perform air monitoring inside the building, inside the work areas, and on the Contractor's employees while asbestos work is underway and at any time during the work.
5. Final visual inspection shall be conducted by the Contractor's Independent Testing Laboratory.

C. Additional Sampling of Suspect Materials:

1. The Contractor and all Subcontractors shall be vigilant during demolition and construction in the event additional suspect asbestos or hazardous materials are encountered. If suspect asbestos or hazardous materials not previously identified are encountered, the contractor shall stop work that may be affected by this material and immediately notify the Owner. The Owner or the Owner's Representative will provide recommendations and additional testing if necessary.
2. The Contractor and all Subcontractors shall notify the Owner prior to any bulk sampling of suspect asbestos-containing material or other hazardous materials to allow the Owner or Owner's Representative to be present during such sampling.

**1.6 PROTECTION OF EXISTING WORK TO REMAIN:** Perform asbestos removal in the project work areas without contamination of adjacent work or the facility.

**1.7 MEDICAL REQUIREMENTS**

- A. Institute and maintain a medical surveillance program for employees in accordance with 29 CFR 1926.1101 and 29 CFR 1910.134.
- B. Institute and maintain a random drug testing program, as required by 49 CFR 382, for all drivers of vehicles transporting asbestos or hazardous materials.

**1.8 TRAINING:** Employ only workers who are trained and certified as required by 29 CFR 1910, 29 CFR 1926, 40 CFR 763, and 49 CFR 383 to remove, encapsulate, barricade, transport, or

dispose of asbestos.

**1.9 PERMITS AND NOTIFICATIONS:** Secure necessary permits for asbestos removal, hauling, and disposal and provide timely notification as required by federal, state, and local authorities.

**1.10 SAFETY AND ENVIRONMENTAL COMPLIANCE:** Comply with laws, ordinances, rules, and regulations of federal, state, and local authorities regarding handling, storing, transporting, and disposing of hazardous materials and all other construction activities.

**1.11 RESPIRATOR PROGRAM:** Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134.

**1.12 HAZARD COMMUNICATION PROGRAM:** Implement a hazard communication program in accordance with 29 CFR 1910.1200.

**1.13 SUBMITTALS**

A. The Contractor shall submit the following documentation to the Owner for review, approval or rejection. Work shall not begin until submittals are approved.

1. Shop drawings.
2. Work plan.
3. Liability insurance policy and performance bond.
4. Schedule.
5. Testing laboratory and laboratory personnel.
6. Disposal site designations and disposal authorizations.
7. Waste transporter designation.
8. Notifications and certifications.
9. "Competent Person" designation and experience.
10. Request for substitutions.

B. Shop drawings shall show:

1. Boundaries of each regulated work area.
2. Location and construction of decontamination areas.
3. Location of temporary site storage facilities.
4. Location of air monitoring stations, both in and outside of the work area.
5. Emergency egress route(s).
6. Location of negative pressure exhaust systems, if required.

C. The work plan shall include procedures for:

1. Work area setup and protection.
2. Worker protection and decontamination.
3. Initial exposure assessment procedures.
4. Asbestos removal procedures.
5. Waste load-out, transport, and disposal procedures.
6. Air monitoring procedures.
  - a. Air monitoring procedures shall include the number of daily samples and the target volumes of each type of sample.
  - b. Clearance air monitoring procedures and protocols for each work area if necessary.
7. Determination by the Certified Project Designer of the estimated quantities of

- ACM and PACM to be removed, and determination of clearance requirements for each different type or phase of work.
8. Emergency procedures.
  9. The Work Plan shall be prepared and signed by an Environmental Protection Agency (EPA) Certified Project Designer.
- D. Insurance Policy and Bond: Submit copies of the Contractor's or Subcontractor's insurance policy and performance bond. Submittal requirement is only to ensure that the insurance certificate(s) show specific coverage for the potentially hazardous materials being handled by this project. The insurance and bond amounts and certificate holder requirements are addressed in other portions of the contract documents and are not covered as part of this submittal requirement.
- E. Schedule: Submit construction schedule by work area.
- F. Independent Testing Laboratories and Laboratory Personnel: Submit the name, location, and phone number of proposed independent testing laboratories, and the names and certifications of the industrial hygiene technicians. Include the laboratory's accreditation. Not all laboratories will require all accreditations.
1. The Independent Testing Laboratories shall be acceptable to Owner.
  2. The laboratories shall be proficient in the National Institute of Occupational Safety and Health (NIOSH) Proficiency in Analytical Testing (PAT) program and shall be accredited by the National Institute of Science and Technology (NIST) under their National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis and airborne asbestos fibers as appropriate. NVLAP accreditation for bulk asbestos analysis may be waived if the microscopists are listed in the American Industrial Hygiene Association (AIHA) Asbestos Analyst Registry (AAR).
  3. Provide a current list of their microscopists who have participated in the latest PAT and NVLAP programs and provide the names of microscopists and evidence that they have completed the NIOSH 582 course or equivalent. Provide latest AAR report of performance for microscopists.
  4. Provide name(s) and resume(s) of proposed on-site industrial hygiene technician(s) showing academic degrees and Alaska Abatement Certificate(s).
- G. Disposal Site: Submit the name and location of the proposed Alaska Department of Environmental Conservation/ U.S. Environmental Protection Agency (DEC/EPA) permitted disposal site. Submit authorization to dispose of asbestos waste by the proposed disposal site operator.
- H. Waste Transporter: Submit the name and address of the proposed waste transporter.
- I. Representations: Submit a signed statement by the Contractor that records of employees' work assignments, certifications, respirator fit tests, and medical records are accurate, up-to-date, and available for inspection.
- J. Notifications and Certificates:
1. Submit a copy of the written "Notification of Demolition and Renovation" to the Environmental Protection Agency. (If required by NESHAP).
  2. Submit a State of Alaska Department of Labor (ADOL) approved copy of the written ADOL notification of proposed workers.

3. Submit a copy of Project Designer's current certification.
- K. Competent Person: Submit the name and certifications of the Contractor's proposed Competent Person and a list of his/her previous projects. Certify by signed statement that the Competent Person has the knowledge and training to supervise the work in compliance with the publications listed in Paragraph 1.4 above.
  - L. Substitutions: Submit requests for substitutions of materials, equipment and methods.
  - M. Updated Project Information: Submit changes to the submitted project information at least 24 hours prior to the effective time of change for the following:
    1. Updated schedules.
    2. Change in Competent Person.
    3. ADOL approval for additional workers.
    4. Changes to work plan.
    5. Revisions to the EPA notification.
- 1.14 TEST REPORTS:** Contractor shall submit periodic test reports, daily logs, and monitoring results as specified herein Submit two (2) copies of the following information within twenty-four (24) hours after the end of a shift:
- A. Initial Exposure Assessment(s): Submit the results of the Contractor's initial exposure assessment(s).
  - B. Daily Air Monitoring: Submit daily, all results of Contractor's air monitoring (submit no later than 24 hours after the end of the shift). Submittal shall consist visual inspection report, field data sheets, and the analytical laboratory's results.
  - C. Project Daily Logs: Submit the previous day's Daily Logs. Logs shall include regulated area sign-in sheets and list of asbestos-containing materials removed including quantities and locations of those materials, in the units used on the drawings. Claims for additional quantities will not be addressed unless daily quantities are submitted.
  - D. Clearance Air Monitoring: Clearance sampling is not anticipated as all work is planned to be performed from the exterior of the school. If any work needs to occur inside the school Contractor will submit draft results of Contractor's clearance air monitoring for each work area for Owner's review and approval prior to releasing the work area to unprotected workers. FAX or electronic submittals are acceptable. Submittal shall include the following:
    1. A signed and dated copy of the final visual inspection report (completed prior to clearance air monitoring) certifying that all dust and debris have been removed from the work area and that all ACM to be removed as required by the contract, were removed.
    2. Documentation that clearance air sample collection complied with 40 CFR 763, contract specifications and the approved work plan.
    3. Drawings of the work area with sampling locations clearly marked. Work area drawings shall be clearly identified as to their location within the facility.
    4. Field data sheets for sampling including: sample locations, calibration device serial number, initial and final pump calibration readings, pump time on and off, initial and final sampling flow rate, pump type and serial number, and sample cassette identification.

5. Laboratory results, signed and dated by the analyst.
6. Data sheets and visual inspection sheets shall be signed and dated by the Industrial Hygiene Technician performing the work.

**1.15 PROJECT COMPLIANCE DOCUMENTS:** Prepare and submit the following records of compliance with hazardous materials regulations. Submittals may contain segregated submittals for more than one (1) work area. Submittal shall be received by Owner within four (4) weeks following work completion. Compliance documents shall be signed and dated and shall include as a minimum:

- A. Waste transport records (40 CFR 61, Figure 4).
- B. Disposal site receipts.
- C. Contractor's "Start" and "Finish" dates for the work area(s).
- D. Daily logs, including regulated area sign in sheets, materials summary, etc (if not previously submitted).
- E. Final work area inspection report(s) and inspector certifications (if not previously submitted).
- F. Final, signed, clean copies of all air sampling field data sheets, location drawings, and air monitoring log, including visual inspection form.
- G. Final, signed, clear, legible copies of all analytical laboratory air monitoring test results, including current laboratory certifications (if changed from previously submitted).
- H. Copies of Asbestos Worker Training certificates for workers performing work on this project and all approved Alaska DOL notifications for those workers.

**1.16 SANITARY FACILITIES:** Provide adequate toilet and hygiene facilities.

**1.17 MATERIAL STORAGE:** Store all materials subject to damage off the ground and secure from damage, weather, or vandalism.

**1.18 ON-SITE DOCUMENTATION:** The Contractor shall maintain on the job site, copies of the following data for safety procedures, equipment, and supplies used for the work.

- A. Equipment: Show the model, style, capacity and the operation and maintenance procedures for the following, as applicable:
  1. High-Efficiency, Particulate, Air (HEPA) Filtration units.
  2. HEPA Vacuum cleaners.
  3. Pressure differential recording equipment.
  4. Heat stress monitoring equipment.
- B. Material Safety Data Sheets (MSDS): Each encapsulant, surfactant, solvent, detergent, and other material proposed to be used shall have an MSDS.

- C. Respiratory Protection Plan: The Contractor's and/or Subcontractor's written respirator program.

## **PART 2 -PRODUCTS**

### **2.1 PERSONAL PROTECTIVE EQUIPMENT:** Provide personal protective clothing as approved and selected by the IH.

- A. Respirators: Provide personally issued and marked respirators approved by the National Institute of Occupational Safety and Health (NIOSH). Provide sufficient replacements for respirators with disposable canisters. Use respirators equipped with dual cartridges whenever both asbestos hazards and other respiratory hazards exist in the work area.
- B. Provide filter cartridges approved for each airborne contaminant which may be present. NIOSH approved filter cartridges may be used. At no time shall the permissible exposure limit (PEL) for the contaminant exceed the PEL listed in 8 AAC 61.1100.
- C. Whole Body Protection: Provide approved disposable fire retardant, full body coveralls and hoods fabricated from nonwoven fabric, gloves, eye protection, and hard-hats, and other protective clothing as required to meet applicable safety regulations to personnel potentially exposed to asbestos above the permissible exposure limits (PELs). Wear this protection properly. Full facepiece respirators shall meet the requirements of ANSI Z87.1.
- D. Provide protective personal equipment and clothing at no cost to the workers.

### **2.2 DECONTAMINATION UNIT**

- A. Provide a temporary three-stage decontamination unit, attached in a leak-tight manner to each negative pressure work area. Decontamination units shall consist of a clean room equipped with separate lockers for each worker, a shower room, and an equipment locker room equipped with separate lockers for each worker.
- B. Shower specifications: Locate flow and temperature controls within the shower where adjustable by the user. Hot water service may be secured from the building hot water system if available, but only with back-flow protection installed by the Contractor at the point of connection, and with prior notification and approval by the Owner. Should sufficient hot water be unavailable, the Contractor shall provide a minimum 40-gallon electric hot water heater with a minimum recovery rate of 20 gallons per minute. Water from the shower room shall not be allowed to wet the floor in the clean room.

### **2.3 WASTE WATER FILTERS:** Provide Water Filtration Units with filters of adequate capacity to treat decontamination water and shower flows. Water filtration unit effluent shall contain less than 7,000,000 asbestos fibers per liter prior to discharge to sanitary sewer or storm drains.

### **2.4 DANGER SIGNS AND TAPE:** Post danger signs and tape signs to demarcate areas where asbestos waste is temporarily stored, and, in areas not accessible to the public, where asbestos-containing materials are left in place. Signs and labels shall be in accordance with applicable regulations and codes. The signs posted at work area entrances, exits, decontamination areas, emergency egress, and waste disposal areas shall comply with 29 CFR 1926.1101 and the International Fire Code.

White Environmental Consultants, Inc.

---

- 2.5 WARNING LABELS:** Affix warning labels to all components or containers containing asbestos wastes. Conform labeling to 29 CFR 1926.1101 and 49 CFR 172.
- 2.6 HEPA FILTRATION UNITS:** (if required) shall conform to ANSI Z9.2, and HEPA filters shall be UL-586 labeled.
- 2.7 PRESSURE DIFFERENTIAL MONITORING EQUIPMENT:** Construction of negative pressure enclosures is not anticipated as all work is planned to be performed from the exterior of the school. If any work is performed inside of the school provide continuous monitoring of the pressure differential with an automatic recording instrument for each negative pressure enclosure. Locate the instrument in a clean area where personnel have access to it without respiratory protection. The instrument shall be fitted with an alarm should the negative pressure drop below -0.02 inches of water column relative to the air outside containment.
- 2.8 CHEMICALS**
- A. Adhesives: Adhesives shall be capable of sealing joints of adjacent sheets of polyethylene to finished or unfinished surfaces and of adhering under both dry and wet conditions.
  - B. Mastic Removal Solvents: Mastic removal solvents shall not contain halogenated compounds or compounds with flashpoints less than 60° C (140° F). Solvents shall be compatible with replacement materials.
  - C. Sealants and Encapsulants: Penetrating and bridging encapsulants for asbestos applications. Tint "Lock-Down" encapsulants used in non-finished areas for identification in a color that will not obscure residual asbestos. Encapsulants shall be compatible with replacement materials.
  - D. Surfactant: Use a surfactant specifically designed to effectively wet asbestos. Mix and apply the surfactant as recommended by the manufacturer.
- 2.9 MATERIALS**
- A. Disposal Containers: Use disposal containers to receive, retain, and dispose of asbestos-containing or contaminated materials. Label leak tight containers in accordance with the applicable regulations. Non-leak tight containers are not acceptable. Plastic bags shall be a minimum 6-mil polyethylene, pre-printed with approved warning labels. Plastic wrap shall be 6-mil polyethylene sheets, securely wrapped and taped. Disposal containers shall be labeled with "ASBESTOS NA 2212," Contractor's name and location, and a Class 9 label.
  - B. Glove Bags: The glove bags shall be a minimum of 6-mil polyethylene or polyvinylchloride plastic, and specially designed for removal of asbestos-containing materials, with two inward projecting long sleeves and rubber gloves, one inward projecting water wand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste.
  - C. Plastic Sheet: A minimum 6-mil thick flame resistant polyethylene (in accordance with NFPA 701) shall be used unless otherwise specified.
  - D. Tape: Tape shall be capable of sealing joints of adjacent sheets of polyethylene, for

attachment of polyethylene sheets to finished or unfinished surfaces and of adhering under both dry and wet conditions.

**2.10 OTHER MATERIALS:** The Contractor shall provide standard commercial quality of all other materials as required to prepare and complete the work.

### **2.11 TOOLS AND EQUIPMENT**

- A. The Contractor shall provide tools and equipment as required to prepare and complete the work. Tools and equipment shall meet all applicable safety regulations.
- B. Transportation equipment shall be suitable for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. All trucks or vans used to transport asbestos shall be enclosed and all containers sealed leaktight. Truck drivers shall have a commercial driver's license with hazardous material endorsement.

## **PART 3 -EXECUTION**

### **3.1 WORK AREAS**

- A. Regulated Work Areas: Establish regulated work areas in compliance with 29 CFR 1926.1101.
- B. Decontamination Area: Install decontamination areas in compliance with 29 CFR 1926.1101. Decontamination area shall meet fire-exiting requirements of the International Fire Code. Showers shall be provided with hot water and water filtration units.
- C. Negative Pressure Enclosure System: Construction of Negative Pressure Enclosure System is not anticipated as all work is planned to be performed from the exterior of the school. If necessary construct Negative Pressure Enclosure Systems as required by 29 CFR 1926.1101, these specifications, and approved work plan. Signage shall conform to the International Fire Code and 29 CFR 1926.1101. Exhausts from HEPA Filtration Units shall terminate outside of the building.
- D. Notify applicable Fire Marshal as required by the International Fire Code.

### **3.2 PERSONNEL PROTECTION PROCEDURES**

- A. Contractor's Competent Person shall strictly enforce personal protection procedures as required by the approved work plan and all applicable regulations.
- B. Post the decontamination, safety, and work procedures to be followed by workers.
- C. Provide continuous on-site supervision by the approved Competent Person.
- D. Maintain a daily log of all workers and visitors entering regulated work areas. Log shall contain the name of each individual, his or her organization, accurate time of entering and leaving, and purpose of visit.

**3.3 ASBESTOS REMOVAL PROCEDURES:** Remove asbestos in accordance with the Contractor's

Approved Work Plan, applicable regulations and this specification. The Owner shall be notified 24-hours in advance of any asbestos disturbance taking place.

### 3.4 AIR MONITORING

- A. Perform personal, work area, and environmental monitoring for airborne asbestos fibers by industrial hygiene technicians who are employees of (one of) the Contractor's Independent Testing Laboratories.
- B. Conduct air monitoring in accordance with 29 CFR 1926.1101, current EPA guidance, and as specified herein. Calibrate all sampling pumps on-site with a calibrated transfer standard before and after each sample. Built-in rotameters on pumps are not acceptable for calibration. Additional samples beyond the minimum numbers shown below may be necessary if samples are overloaded or require shorter sampling periods to achieve readable samples, due to size of the work force, or due to more than one 8-hour work shifts.
- C. Conduct daily work area and environmental air monitoring per shift as follows:
  - 1. Three (3) air samples within the work area.
  - 2. One (1) air sample located outside the entrance to the work area.
  - 3. Three (3) air samples located inside the school adjacent to areas where exterior work is being performed.
  - 4. Two (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.)
- D. Clearance sampling is not anticipated as all work is planned to be performed from the exterior of the school. If any work needs to occur inside the school Contractor will have clearance air monitoring 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 TEM analysis. A minimum of five aggressive clearance samples are required for each work area, regardless of the type of analysis. TEM analysis shall be used unless PCM analysis is approved. PCM analysis (NIOSH Method 7400) may be performed if allowed by 40 CFR 763 and with prior approval by the Owner or Owner's representative. 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. Conduct personal air monitoring in accordance with 29 CFR 1926.1101 and as specified herein.
  - 1. Take personnel samples (excluding excursion samples) at least twice per eight-hour work shift at the rate of one sample for every six people performing that task in the same work area. Persons performing separate tasks or in separate work areas shall be sampled separately.

White Environmental Consultants, Inc.

2. Collect and analyze excursion samples as required by 29 CFR 1926.1101.
  3. Continuously monitor all workers disturbing asbestos outside of a Negative-Pressure Enclosure System if that work is conducted indoors.
- F. Daily personnel monitoring may be discontinued only after the Contractor's Independent Testing Laboratory certifies in writing that a Negative Exposure Assessment has been obtained and the Owner has reviewed and approved the negative exposure assessment data.
- G. Submit air monitoring results to the Owner as specified in Paragraphs 1.14 and 1.15.

### **3.5 DISPOSAL**

- A. Dispose of asbestos wastes in an EPA/DEC permitted asbestos landfill.
- B. Comply with current waste disposal, handling, labeling, storage, and transportation requirements of the waste disposal facility, U.S. Department of Transportation, and EPA regulations.
- C. Workers handling waste shall wear protective clothing and canister type respirators.
- D. Drivers of the waste transport vehicles need not wear respirators while enroute.
- E. Workers shall wear respirators when handling asbestos material at the disposal site.

### **3.6 CLEANING OF WORK AREA**

- A. Remove all asbestos material and debris upon completion of asbestos repair or removal within a work area. Wet clean or HEPA vacuum all surfaces within the work area.
- B. Notify the Owner and the Independent Testing Laboratory that asbestos work has been completed and the work area is ready for visual inspection. Include in the visual inspection report a statement that all asbestos in the work area has been removed, repaired and/or encapsulated as required by the contract, and that all debris has been removed.
- C. A lockdown encapsulant shall be applied to all surfaces within the abatement areas prior to performing clearance air monitoring.

### **3.7 CLEARANCE AIR MONITORING:** Clearance sampling is not anticipated as all work is planned to be performed from the exterior of the school. If any work needs to occur inside the school Contractor will have clearance air monitoring conducted by the Contractor's Independent Testing Laboratory subcontractor and the following will apply:

- A. The Contractor and its Independent Testing Laboratory shall conduct and document a visual inspection to verify that all asbestos in the work area has been removed, repaired and/or encapsulated as required by the contract, and that all debris has been removed.
- B. Final clearance air monitoring tests if necessary shall not be performed until all areas and materials within the work area are fully clean and dry.

White Environmental Consultants, Inc.

---

- C. Final clearance air monitoring shall be conducted by the Contractor's Independent Testing Laboratory in accordance with all applicable regulations and the Contractor's approved work plan after passing the visual inspection. The clearance criteria shall include a minimum of five clearance samples using "aggressive methods" collected and analyzed in accordance with 40 CFR 763. TEM analysis is required, unless PCM analysis is specifically pre-approved by the Owner as part of the work plan submittal.
- D. If the final clearance air monitoring results show that the work area has failed to meet the clearance criteria, the Independent Testing Laboratory shall notify the Owner and the Contractor. The Contractor shall reclean the work area and request the Independent Testing Laboratory to conduct a follow-up inspection to be followed by another set of clearance air monitoring samples. All work specified in this paragraph shall be done at no additional expense to the Owner.
- E. If the clearance air monitoring results meet the clearance criteria of 40 CFR 763 and the specifications for the work and the Owner has reviewed and accepted the clearance results as required by 1.14 D, then the HEPA filtration units may be deactivated (if applicable) and all seals, barriers, barricades, and decontamination areas shall be dismantled and removed and the work area released to unprotected workers.
- F. Submit the final work area inspection report, clearance air monitoring field data sheets and the laboratory air monitoring report to the Owner as specified in Paragraph 1.15.

### **3.8 SUBSTANTIAL COMPLETION**

- A. After the work area barriers and temporary construction and equipment have been removed, the Contractor shall inspect the work area to verify that no asbestos debris, contaminated water, or other residue remains. Any remaining residue shall be cleaned up using HEPA vacuum cleaners and wet wiping methods.
- B. The Contractor shall certify that the work area has been cleaned of all asbestos in compliance with the contract, and that there is no unrepaired damage to walls, ceilings, doors, surfaces, equipment or finishes other than that called for by the scope of work.
- C. Costs of restoration of damaged finishes shall be borne by the Contractor.

**END OF SECTION**

## SECTION 02 83 33

## LEAD REMOVAL / DISTURBANCE

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. The work requires the disturbance (including cleanup of existing loose paint), demolition, or removal, and disposal of lead painted and/or lead-containing materials related to the Chapman Elementary School Renovation Project as specified herein. Items to be disturbed may include, but are not limited to:

1. Painted exterior siding.
2. Painted windows and frames.

All work is planned to be performed from the exterior of the school. Critical barriers shall be installed inside of the school at all exterior walls within project area. Contractor is to refer to demo drawings for locations of materials to be removed or disturbed.

- B. Portions of this building are classified as a child occupied facility in accordance with 40 CFR 745 and lead based-paint has been identified on components to be disturbed in those areas. Personnel performing work in these areas must comply with the requirements of 40 CFR 745. 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. It is anticipated that only small amounts of lead based paint will be required to be disturbed for this renovation work, and the work would be classified as *minor repair and maintenance activities*, therefore most requirements of 40 CFR 745 do not apply.
- C. The work includes all air monitoring, dust sampling, waste testing and disposal as specified herein. Materials listed are not necessarily hazardous waste or hazardous to handle. Lead-containing paints or materials identified for demolition and disposal shall be tested by the Toxicity Characteristics Leaching Procedure (TCLP) to determine if they are hazardous waste prior to disposal. Metal waste shall be recycled where practical.
- D. Asbestos, lead and other hazardous materials are present in the building that may impact the work of all trades. All trades shall coordinate with other trades and conduct their work to prevent worker exposure or site contamination. This notification is provided in accordance with EPA and OSHA requirements.
- E. All work disturbing lead-containing materials shall comply with 29 CFR 1926.62, 40 CFR 745 and other applicable regulations. **IMPORTANT:** All renovation work (other than *minor repair and maintenance activities*) performed on or after April 22, 2010 in *Child Occupied Facilities* (see definitions in 40 CFR 745) where lead-based paint will be disturbed must be performed by an EPA certified *Firm* (Contractor) and directed by an EPA certified *Renovator* using certified and/or properly trained individuals (*Workers*). In addition to the training certifications, the *Firm* must provide the Owner with the EPA pamphlet "*Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools,*" obtain a written acknowledgement of the pamphlet receipt, comply with EPA work practice standards and maintain records in accordance with 40 CFR 745.

## 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02 82 13 Asbestos Abatement

**1.3 DEFINITIONS AND ABBREVIATIONS:** Definitions and abbreviations are provided in the applicable publications listed in Paragraph 1.4 of this section.

## 1.4 APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced.

- A. General Requirements: All work shall be performed in compliance with the International Building, Fire, Fuel Gas, Mechanical, Residential, Energy Conservation and Administrative Code; Uniform Plumbing Code; the National Electrical Code; and the publications listed in this section that are in effect at the time of the bidding of this contract.
- B. Title 29 Codes of Federal Regulations (CFR), Department of Labor (USDOL)
  - Part 1910 General Occupational Safety and Health Standards
  - Part 1926 Safety and Health Regulations for Construction
- C. Title 40 CFR, Environmental Protection Agency (EPA)
  - Part 61 National Emission Standards for Hazardous Air Pollutants
  - Part 311 Worker Protection Part 763 Asbestos
- D. Title 49 CFR, Department of Transportation (DOT)
  - Part 171 General Information, Regulations and Definitions
  - Part 172 Hazardous Materials Communication and Regulations
  - Part 173 General Requirements for Shipments and Packaging
  - Part 177 Carriage by Public Highway
  - Part 178 Specifications for Packaging
  - Part 382 Requirements for Drug Testing
  - Part 383 Commercial Driver's License Standards
- E. State of Alaska Administrative Codes (AAC)
  - 8 AAC 61 Occupational Safety and Health Standards
  - 18 AAC 60 Solid Waste Management
- F. State of Alaska Statutes
  - AS 18.31 Health and Safety –Asbestos
  - AS 45.50.477 Titles Relating to Industrial Hygiene
- G. Public Law 101-637
  - Asbestos School Hazard Abatement Reauthorization Act
- H. Federal Standards
  - 313D Material Safety Data Sheets
- I. American National Standard Institute (ANSI)
  - Z9.2 Local Exhaust Systems
  - Z87.1 Eye and Face Protection
  - Z88.2 Practices for Respiratory Protection

- J. American Society for Testing and Materials (ASTM)  
D-4397 Polyethylene Sheeting
- K. International Code Institute International Building (IBC), Fire, Fuel Gas, Mechanical, Residential, Energy Conservation and Administrative Codes Current Standards
- L. National Fire Protection Association (NFPA) NFPA 701 Fire Tests for Flame Resistant Textiles and Films
- M. National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods, Current Edition
- N. Underwriters Laboratories (UL)  
UL 586 High-Efficiency, Particulate, Air (HEPA) Filter Units

## 1.5 QUALITY ASSURANCE

- A. On-site Observation:
  - 1. The safety and protection of the Contractor's employees, Subcontractor's employees, Owner's employees, the facility, and the public is the sole responsibility of the Contractor.
  - 2. The Owner, the Owner's Representative, or representatives of State or Federal agencies may make unannounced visits to the site during the work. The Contractor shall make available two complete sets of clean, protective clothing for such visitor use. If the work requires the use of PAPR or Supplied Air Respirators, the contractor shall provide respirators to the visitor to ensure compatibility with fresh batteries or supplied air system. It is the visitor's responsibility to ensure medical qualification, training, and current "fit test" prior to using any respirator provided by the Contractor.
  - 3. If the Owner or agency visitor determines that practices are in violation of applicable regulations, they will immediately notify the Contractor that operations must cease until corrective action is taken. Such notification will be followed by formal confirmation.
  - 4. The Contractor shall stop work after receiving such notification. The work may not be restarted until the Contractor receives written authorization from the Owner.
  - 5. All costs resulting from such a stop work order shall be borne by the Contractor and shall not be a basis for an increase in the contract amount or an extension of time.
- B. Monitoring and Testing: Monitoring and testing during the work shall be performed as follows:
  - 1. The Contractor shall hire Independent Testing Laboratories to collect and evaluate all air, dust, bulk, and toxicity characteristic leaching procedure (TCLP) samples that are the responsibility of the Contractor. The Contractor shall direct its laboratories, in writing, to release monitoring and testing data, and all other pertinent data and records, to the Owner.
  - 2. The Contractor shall be responsible for monitoring its employees for potential exposure to airborne contaminants as required by this specification and all applicable regulations.
  - 3. The Contractor shall be responsible for work area monitoring and environmental monitoring outside the work area as required by this specification.
  - 4. The Owner may perform monitoring and testing inside the building, inside the work areas, and on the Contractor's employees while work is underway and at any time during the work.
  - 5. Final inspection and clearance testing shall be conducted by the Contractor.
  - 6. The Contractor shall have its Independent Testing Laboratories archive all samples until the successful completion of the project.
- C. Additional Sampling of Suspect Materials:

1. The Contractor and all Subcontractors shall be vigilant during demolition and construction in the event additional suspect lead or hazardous materials are encountered. If suspect lead or hazardous materials not previously identified are encountered, the contractor shall stop work that may be affected by this material and immediately notify the Owner. The Owner or the Owner's Representative will provide recommendations and additional testing if necessary.
2. The Contractor and all Subcontractors shall notify the Owner prior to any bulk sampling of suspect lead-containing material or other hazardous materials to allow the Owner or Owner's Representative to be present during such sampling.

**1.6 PROTECTION OF EXISTING WORK TO REMAIN:** Perform lead removal in the project work areas without damage or contamination of adjacent work or the facility.

### 1.7 MEDICAL REQUIREMENTS

- A. Institute and maintain a surveillance program in accordance with 29 CFR 1926.62 and 29 CFR 1910.134.
- B. Institute and maintain a random drug testing program, as required by 49 CFR 382, for all drivers of vehicles transporting hazardous materials.

**1.8 TRAINING:** Employ only workers who are trained and certified as required by 29 CFR 1910, 29 CFR 1926, 40 CFR 311, 40 CFR 745 and 49 CFR 383 to remove, encapsulate, barricade, transport, or dispose of lead-containing materials.

**1.9 PERMITS, IDENTIFICATION NUMBERS AND NOTIFICATIONS:** Secure necessary permits for hazardous material removal, storage, transport and disposal and provide timely notification as required by federal, state, and local authorities.

**1.10 SAFETY AND ENVIRONMENTAL COMPLIANCE:** Comply with laws, ordinances, rules, and regulations of federal, state, and local authorities regarding handling, storing, transporting, and disposing of hazardous materials and all other construction activities.

**1.11 RESPIRATOR PROGRAM:** Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134.

**1.12 HAZARD COMMUNICATION PROGRAM:** Implement a hazard communication program in accordance with 29 CFR 1910.1200.

### 1.13 SUBMITTALS

- A. Submit the following documentation to the Owner for review, approval or rejection. Work shall not begin until submittals are approved.
  1. Shop drawings.
  2. Work plan.
  3. Liability insurance policy and performance bond.
  4. Schedule.
  5. Independent testing laboratory and laboratory personnel.

6. Disposal site designations.
  7. Waste transporter designations.
  8. Representations.
  9. "Competent Person" designation and experience.
  10. EPA Training certifications and notification plan, if required.
  11. Request for substitutions.
- B. Shop drawings shall show:
1. Boundaries of each lead work area, if required.
  2. Location and construction of decontamination stations, if required.
  3. Location of temporary site storage facilities.
  4. Location of air monitoring stations, both in and outside of the work area.
  5. Emergency egress route(s).
  6. Location of negative pressure exhaust systems, if required.
- C. The work plan shall include procedures for:
1. Work area set-up and protection.
  2. Worker protection and decontamination.
  3. Initial exposure determination(s).
  4. Lead removal procedures.
  5. Waste testing, transport, and disposal procedures.
  6. Monitoring and testing procedures (Sampling and Analysis Plan).
  7. Spill clean-up emergency procedures.
  8. Method of owner/occupant notification as per 40 CFR 745, if required.
- D. Insurance Policy and Bond: Submit copies of the Contractor's or Subcontractor's insurance policy and performance bond. Submittal requirement is only to ensure that the insurance certificate(s) show specific coverage for the potentially hazardous materials being handled by this project. The insurance and bond amounts and certificate holder requirements are addressed in other portions of the contract documents and are not covered as part of this submittal requirement.
- E. Schedule: Submit construction schedule by work area.
- F. Independent Testing Laboratories and Laboratory Personnel: Submit the name, location, and phone number of proposed independent testing laboratories, and the names and certifications of the industrial hygiene technicians. Include the laboratory's accreditation. Not all laboratories will require all accreditations.
1. The Independent Testing Laboratories shall be acceptable to Owner.
  2. Submit evidence that the laboratory is currently judged proficient in lead analysis, as determined by the Environmental Lead Proficiency Analytical Testing (ELPAT) Program, of the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP) for lead in paint chip, soil, and dust wipe samples.
  3. Submit evidence that the laboratory is currently certified by OSHA to perform blood lead analysis.
  4. Submit evidence that the laboratory has demonstrated proficiency 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.
  5. Submit evidence that the laboratory has 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.

6. Submit evidence that the laboratory is currently accredited by the American Industrial Hygiene Association (AIHA).
  7. Submit the name, address, telephone number, and résumé of the Contractor's Industrial Hygienist (IH) who prepared the Sampling and Analysis Plan and will oversee the on-site monitoring, visual inspections and clearance testing. Submit the names, addresses, and résumés of industrial hygiene technicians who may assist the IH for on-site tasks. Submit documentation that the IH has all the qualifications for the assigned duties as required by the Contractor's liability insurance policy.
  8. Submit copies of the Contractor's letter to each of the independent testing laboratories, directing each to release all the results for this project to the Owner, as these results become available and as specified herein.
- G. Disposal Site: Submit the name and location of the proposed Environmental Protection Agency (EPA) permitted disposal site.
- H. Waste Transporter: Submit the name and address of the proposed waste transporter.
- I. Representations: Submit statement by the Contractor that records of employees' work assignments, certifications, respirator fit tests, and medical records are accurate, up-to-date, and available for inspection.
- J. Competent Person: Submit the name and certifications of the Contractor's proposed Competent Person and a list of his/her previous projects. Certify that the Competent Person has the knowledge and training to supervise the work in compliance with the publications listed in Paragraph 1.4 above.
- K. EPA Lead Training Certifications, and Notification Plan: On projects where lead-based paint is to be disturbed for other than minor repair and maintenance activities in child-occupied facilities, submit Firm and Renovator certificates of training, and describe the contractor's plan to notify the owner and parents and guardians of the planned activities in accordance with 40 CFR 745.
- L. Substitutions: Submit requests for substitutions of materials, equipment and methods.
- M. Updated Project Information: Submit changes to the submitted project information at least 24 hours prior to the effective time of change for the following:
1. Updated schedules for lead removal.
  2. Change in Competent Person.
  3. Changes to work plan.

**1.14 TEST REPORTS:** Submit the following documentation produced during the work as soon as received:

- A. Project Daily Logs: Submit the previous day's Daily Logs. Logs shall include regulated area sign-in sheets and list of lead-containing materials removed, including quantities and locations of those materials, in the units used on the drawings. Claims for additional quantities will not be addressed unless daily quantities are submitted.

- B. Monitoring and testing data sheets and laboratory reports.

**1.15 PROJECT COMPLIANCE DOCUMENTS:** Submit the following documents to the Owner with application for final payment:

- A. Contractor's actual project "Start and Finish" dates.
- B. Waste testing results per Paragraph 3.5 (A).
- C. Waste Shipment Records (Manifest EPA form 8700-22) if required.
- D. Clearance sampling and soil sampling data sheets (if required) and laboratory reports.
- E. Disposal site receipts.
- F. Final clearance submittals as outlined in 3.7 (if required).
- G. Evidence that each employee who was engaged in lead disturbance/removal work or who was exposed to lead completed training on lead covering the requirements of 29 CFR 1926.62 and 40 CFR 745, if required.
- H. Evidence of owner acknowledgement of receipt of EPA pamphlet "Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools", if required.

**1.16 SANITARY FACILITIES:** Provide adequate toilet and hygiene facilities.

**1.17 MATERIAL STORAGE:** Store all materials subject to damage off the ground and secure from damage, weather, or vandalism.

**1.18 ON-SITE DOCUMENTATION:** Maintain on the job site, copies of the following data for safety procedures, equipment, and supplies used for the work.

- A. Equipment: Show the model, style, capacity and the operation and maintenance procedures for the following, as applicable:
  - 1. High-Efficiency, Particulate, Air (HEPA) Filtration units.
  - 2. HEPA Vacuum cleaners.
  - 3. Pressure differential recording equipment.
  - 4. Heat stress monitoring equipment.
- B. Material Safety Data Sheets (MSDSs): Maintain MSDSs for each encapsulant, surfactant, solvent, detergent, and other material proposed to be used.
- C. Respiratory Protection Plan: The Contractor's written respirator program.

## PART 2 - PRODUCTS

**2.1 PERSONAL PROTECTIVE EQUIPMENT:** Provide personal protective clothing as approved and selected by

the IH.

- A. Respirators: Provide personally issued and marked respirators approved by the National Institute of Occupational Safety and Health (NIOSH). Provide sufficient replacements for respirators with disposable canisters. Use respirators equipped with dual cartridges whenever both lead hazards and other respiratory hazards exist in the work area.
- B. Provide filter cartridges approved for each airborne contaminant which may be present. NIOSH approved filter cartridges may be used. At no time shall the permissible exposure limit (PEL) for the contaminant exceed the PEL listed in 8 AAC 61.1100.
- C. Whole Body Protection: Provide approved aprons, gloves, eye protection, and hard-hats, and other protective clothing as required to meet applicable safety regulations to personnel potentially exposed to lead dust or fumes above the permissible exposure limit (PEL). Wear this protection properly. Full facepiece respirators shall meet the requirements of ANSI Z87.1.
- D. Provide protective personal equipment and clothing at no cost to the workers.

## 2.2 DECONTAMINATION UNIT

- A. Provide a temporary three-stage decontamination unit, attached in a leak-tight manner to each Contained Work Area. Decontamination units shall consist of a clean room equipped with separate lockers for each worker, a shower room, and an equipment locker room equipped with separate lockers for each worker.
- B. Shower specifications: Locate flow and temperature controls within the shower and be adjustable by the user. Hot water service may be secured from the building hot water system if available, but only with back-flow protection installed by the Contractor at the point of connection, and with prior notification and approval by the Owner. Should sufficient hot water be unavailable, the Contractor shall provide a minimum 40 gallon electric hot water heater with a minimum recovery rate of 20 gallons per hour. Water from the shower room shall not be allowed to wet the floor in the clean room.

**2.3 WASTE WATER FILTERS:** Install the waste water filters in a series of stages with the final filtration stage sufficient to meet discharge standard of 18 AAC 70 and/or any local sewage system discharge limit for lead. Size the waste water pump for 1.25 times the shower head flow-rate. Dispose all filters as lead contaminated waste.

**2.4 WARNING SIGNS AND TAPE:** Post warning signs and tape at the boundaries and entrances to lead disturbance and removal work areas. Signs required by other statutes, regulations, or ordinances may be posted in addition to, or in combination with, this warning sign. Conform warning signs and tape to the requirements of 29 CFR 1926.62.

**2.5 WARNING LABELS:** Affix warning labels to all hazardous waste disposal containers as described in the Contractor's approved Solid Waste Disposal Plan. Conform labeling to 29 CFR 1926.62 and 49 CFR 100-199.

**2.6 TOOLS:** Vacuum cleaners shall be equipped with HEPA filters. Use only approved power tools to remove lead-containing material. Do not use open-flame and electric element heat-gun type tools with temperatures in excess of 700°F to remove lead-containing material. Remove all residual lead contamination from reusable tools being removed from lead disturbance or removal work areas. Electrical

tools and equipment shall be UL listed.

**2.7 AIR MONITORING EQUIPMENT:** The Contractor's IH shall select the air monitoring equipment to be used for the evaluation of airborne lead.

**2.8 EXPENDABLE SUPPLIES:** Provide flame resistant 6-mil thick polyethylene sheet plastic shall be provided in widths necessary to minimize seams.

**2.9 MATERIAL SAFETY DATA SHEETS (MSDSs):** Provide MSDSs for all chemical materials brought onto the work-site.

**2.10 OTHER ITEMS:** Provide other items, such as consumable materials, disposable and/or reusable cleaning equipment and hand tools, or miscellaneous construction equipment and materials, in sufficient quantity as necessary to fulfill and complete the requirements of the contract. Electrical equipment and supplies shall be UL listed.

**2.11 ENCAPSULANTS:** Encapsulants shall contain no toxic or hazardous substances. Encapsulants shall be compatible with the products to which they are applied and be compatible with replacement products.

### **PART 3 - EXECUTION**

#### **3.1 WORK AREAS**

- A. Lead Control Areas: A control area, structure or containment where lead-containing or contaminated materials are being disturbed. Critical barriers and/or physical boundaries shall be employed to isolate the lead control area and to prevent migration of lead contamination and unauthorized entry of personnel. Refer to 40 CFR 745 for additional requirements if lead based paint is disturbed in child-occupied facilities.
- B. Contained Lead Work Area Requirements: Construct contained lead work areas as described in the Contractor's approved work plan. A contained lead work area is required whenever airborne lead levels cannot be maintained below the OSHA action level at the boundary of a lead work area.
- C. Building Ventilation System: Shut down and isolate by air-tight seals all building ventilation systems supplying air into or returning air from a lead control area or contained lead work area.
- D. Building Electrical Systems: Verify that the electrical service is deactivated, disconnected and locked out where necessary for wet washing and/or removal. Provide temporary electrical service, equipped with ground fault protection, where needed.

#### **3.2 PERSONNEL PROTECTION PROCEDURES**

- A. Initial Determination: An initial determination is required in the absence of acceptable prior exposure data in accordance with 29 CFR 1926.62. Establish an initial lead work area for each material to be disturbed and each disturbance procedure if required. Isolate these lead work areas from the rest of the building. Personnel working in these areas shall wear respiratory protection and personal protective equipment as directed by the IH. Perform personal and work area air monitoring as directed by the IH. Operational decontamination facilities shall be available. Work performed shall be representative of the work to be done during the remainder of the project.

- B. Respirator Evaluation: Upgrading, downgrading, or not requiring respirators shall be recommended by the Contractor's IH based on the measured airborne lead-containing dust concentrations. Immediately implement recommendations to upgrade the respiratory protection shall be implemented immediately, followed by notification to the Owner. NOTE: Submit recommendations in writing to downgrade respirator type or not require respirators to the Owner for review and written approval prior to implementation.
- C. Decontamination Procedures: Worker and material decontamination procedures shall be as described in the Contractor's approved work plan. Worker decontamination shall be as directed by the Contractor's competent person.
- D. Work Stoppage: Stop work if the IH, the Owner, or a representative of a regulatory agency determines that the work is not in compliance with the Contractor's approved work plan, these specifications, or applicable laws and regulations. The Contractor shall stop work and notify the Owner whenever the measured concentrations of lead outside the lead control area equal or exceed 30 µg/m for airborne lead or 200 µg/ft for lead dust on surfaces that would normally be accessible by building occupants. When such work stoppage occurs, the cause of the contamination shall be corrected and the damaged or contaminated area shall be restored to its original decontaminated condition by the Contractor at no expense to the Owner. The Contractor is responsible for removing dusts and debris that were generated as a result of his work.
- E. The Contractor shall adhere to all applicable regulations regarding entry into confined spaces.

### 3.3 LEAD DISTURBANCE AND REMOVAL PROCEDURES

- A. General: Perform lead disturbance or removal work in accordance with the Contractors approved work plan, applicable regulations and this specification.
- B. Pre-Cleaning: Removal of existing loose paint chips is included in the scope of work. Pre-clean surfaces by HEPA vacuum and wet washing/wiping prior to the establishment of a work area.
- C. For renovation work that is regulated by 40 CFR 745, comply with the work practice standards of that regulation.

### 3.4 MONITORING AND TESTING: Conduct daily sampling in accordance with the Contractor's accepted Sampling and Analysis Plan and this specification. The Owner may conduct air monitoring in the Contractor's work areas and on the Contractor's employees.

- A. Perform environmental air monitoring outside the lead work area for each lead work area without a negative initial determination. Include at least one sample immediately outside the entrance to the lead work area.
- B. Take personnel samples in accordance with 29 CFR 1926.62. Personal samples for an employee will include a minimum of two samples per 8 hour shift. Employees will 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.
- C. Reduction of monitoring: For each operation for which the Negative Initial Determination established workers' exposure will be below the action level, the Contractor's IH may petition the Owner's Representative to recommend that the monitoring as required above be reduced

for the specific task or operation.

- D. For renovation work that is regulated by 40 CFR 745, comply with any additional cleaning, inspection and testing standards of that regulation.

### 3.5 DISPOSAL

- A. **Sampling of Waste Materials:** The Contractor shall test waste materials according to 40 CFR 261 and the disposal site's permit to determine if they are hazardous waste and to dispose of them accordingly. Collect, package and transport to an EPA approved Hazardous Waste Disposal Site all bulk debris, loose paint chips, fines, dust from HEPA filters and vacuum bags, unfiltered waste water, water filter cartridges, disposable personal protective equipment (including respirator filters, poly, and tape) which do not have TCLP test results that classify the material as non-hazardous for lead. Lead-acid batteries and other batteries are classified by the EPA as Universal Wastes. The EPA encourages that all Universal Wastes be recycled in accordance with 40 CFR 273, or in the case of lead-acid batteries, in accordance with 40 CFR 266, subpart G.
- B. **Hazardous Waste Disposal:** Dispose of hazardous project wastes as required by 40 CFR 260 and the Contractor's approved work plan.
- C. **Construction (Non-Hazardous) Waste Disposal:** Dispose of solid (non-hazardous) waste in a permitted waste facility, in accordance with applicable federal, state, and local laws and regulations. Burning of waste is prohibited.
- D. **Salvageable Materials:** The Contractor may salvage metallic lead, lead-acid batteries and other materials to keep such materials from entering the project waste stream. Sell or transfer salvage with a document of exempt status as provided by 40 CFR 261.
- E. **Waste Storage:** Temporarily store solid wastes as described in the approved work plan.

**3.6 FINAL CLEANING AND VISUAL INSPECTION:** Perform a final cleaning and visual inspection of each lead control area prior to release to unprotected workers in accordance with the Contractor's approved work plan. Clean the lead control area by vacuuming with a HEPA filtered vacuum cleaner, wet mopping or wet wiping. Do not dry sweep or use pressurized air to clean up the area. A final visual inspection report shall be provided by the Owner's Representative 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.

**3.7 WORK AREA CLEARANCE TESTING:** Work area clearance testing by the Contractor is required for each lead control area where the lead action level has been exceeded, or for work in child occupied facilities covered by 40 CFR 745. 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:

- A. A visual inspection report by the Contractor's IH Technician 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.
- B. Three (3) lead soil sample results from within the lead control area per the Contractor's

approved work plan and in accordance with NIOSH method 9100. Clearance levels shall be 400 parts per million (ppm) in soil.

- C. For child-occupied facilities where lead-based paints have been disturbed, clearances shall be performed by an EPA certified lead inspector, risk assessor or certified dust sampling technician in accordance with 40 CFR 745. Dust clearance levels shall be below 40 µg/ftfor floors, 250 µg/ftfor interior window sills and 400 µg/ftfor window troughs. Soil clearance levels shall be below 400 parts per million (ppm) for play areas and 1,200 ppm for bare soil in non-play areas.
- D. The Owner may conduct concurrent clearance testing.
- E. Work area barriers or containments shall not be removed until clearance testing results are reviewed and approved by the Owner.

### **3.8 SUBSTANTIAL COMPLETION**

- A. After the work area barriers and temporary construction and equipment have been removed, the Contractor shall inspect the work area to verify that no lead debris, contaminated water, or other residue remains. Any remaining residue shall be cleaned up using HEPA vacuum cleaners and wet wiping methods.
- B. The Contractor shall certify that the work area has been cleaned of all lead in compliance with the contract, and that there is no unrepaired damage to walls, ceilings, doors or surfaces or finishes other than that called for by the scope of work.
- C. Costs of restoration of damaged finishes shall be borne by the Contractor.

**END OF SECTION**

SECTION 06010 LUMBER

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

Materials required under this section include, but are not necessarily limited to all wood, plywood, nails, bolts, framing anchors and other hardware, and all other materials or items needed for rough and finish carpentry, but not specifically described in other sections.

B. Related Work Described Elsewhere:

- |    |                         |               |
|----|-------------------------|---------------|
| 1. | Rough Carpentry:        | Section 06100 |
| 2. | Glu-Laminated Beams     | Section 06180 |
| 3. | Fabricated Wood Trusses | Section 06192 |
| 4. | Engineered Wood         | Section 06192 |

1.02 QUALITY ASSURANCE

In addition to complying with applicable codes and regulations, comply with the following standards:

- A. Lumber Grading Rules and Wood Species to be in conformance with ANSI/AF&PA NDS-1997.
- B. Grading rules of the following associations apply to materials furnished under this Section:
1. West Coast Lumber Inspection Bureau (WCLB).
  2. American Plywood Association (APA).
- C. Grade marks of the above association shall appear on all wood products furnished under this section.
- D. Regulatory Agencies:
1. International Building Code (IBC) published by the International Conference of Building Officials.
  2. Lumber Treatment:
    - a. Preservative treatment of lumber and plywood:  
American Wood Preserves Bureau Standards. (AWPB)
    - b. Fire retardant treatment of lumber and plywood:  
American Wood Preserves Bureau Standards. (AWPB)
- E. Referenced Standards:
1. American Society for Testing and Materials (ASTM)
  2. American Wood Preserves Bureau (AWPB)

- a. AWPB LP-2 Standard for Softwood Lumber, timber and plywood treated with Waterbone Preservatives for above ground locations.
3. American Forest and Paper Association
  - a. ANSI/AF&PA NDS-1997.
4. American Institute of Timber Construction (AITC)

### 1.03 SUBMITTALS

Submit in accordance with Section 01340, the following:

A. Materials List:

A complete list of all the types of materials proposed to be furnished under this section.

## PART 2 PRODUCTS

### 2.01 GRADE STAMPS

- A. Framing Lumber:  
Identify all framing lumber by the grade stamp of the West Coast Lumber Inspection Bureau.
- B. Plywood:  
Identify all plywood by the grade of the American Plywood Association.
- C. Other:  
Identify all other products by the grade stamp of the appropriate grading agency for that particular product.

### 2.02 DIMENSION LUMBER

- A. Material:
  1. Provide kiln dried dimension lumber of the species and grade noted on the Drawings with not more than 19% moisture content, and complying with the dry size requirements of the appropriate grading agency.
  2. Dress dimension lumber s4s unless otherwise specifically called out.
- B. Appearance:  
Where framing lumber will be exposed to view and is shown or scheduled to receive a transparent or natural finish, provide lumber of "Appearance" grade.
- C. Pressure Treated:  
Provide where wood is in contact with masonry or concrete, or where noted on drawings. Cut ends to be treated with Ammoniacal Copper Arsenate (ACA) to a retention of 0.60 pcf per UBC Standard 25-12 and American Wood Preserves Bureau AWPB "FDN".

### 2.03 PLYWOOD

- A. Rough Carpentry:  
Provide interior type with exterior glue of the grade and type indicated on the Drawings.
- B. Appearance:  
Where plywood will not be concealed by other work, provide A-B plugged grade with 'A' side showing unless otherwise noted.

2.04 ORIENTED STRAND BOARD SHEATHING  
7/16" STRUCTURAL 1 panels with exterior glue.

2.05 SOFFIT BOARDS

- A. T-111 plywood, 5/8" thick. Class 303-18, 303-18 W Grade.

2.06 FASCIA BOARDS

- A. Not Used

2.07 MISCELLANEOUS MATERIALS

- A. Anchorage and Fastenings:  
Select proper type, size, material, and finish for each application. Comply with the following:

- |    |                       |             |
|----|-----------------------|-------------|
| 1. | Nails and staples:    | FS FF-N-105 |
| 2. | Tacks:                | FS FF-N-103 |
| 3. | Wood screws:          | FS FF-N-111 |
| 4. | Bolts and studs:      | FS FF-B-575 |
| 5. | Nuts:                 | FS FF-B-836 |
| 6. | Washers:              | FS FF-W-92  |
| 7. | Lag bolts:            | FS FF-B-561 |
| 8. | Toggle bolts:         | FS FF-B-588 |
| 9. | Bar or strap anchors: | ASTM A-575  |

PART 3 EXECUTION

3.01 PRODUCT HANDLING

- A. Storage and Protection:  
Do not deliver any of the products of this section to the jobsite until a secure, dry, sheltered area, away from traffic, is available for their storage. Use all means necessary to protect the products of this section before, during, and after installation and to protect the installed materials and work of all other trades.
- B. Repairs and Replacement:

In the event of damage make all repairs and replacements necessary to restore the item to original undamaged condition. Repairs and replacements shall be subject to approval of the Architect and shall be accomplished at no additional expense to the Owner.

- C. Damaged Material:  
Segregate all damaged material to ensure against its incorporation into the Work, until all necessary repairs, where authorized, have been accomplished.
- D. Stockpiling:  
Stockpile all materials sufficiently in advance to ensure their availability in a timely manner for the work of all related sections.
- E. Compliance:  
Do not permit non-complying materials to be delivered to the jobsite and immediately remove any which are delivered, replacing them with materials complying with the requirements of this section.

END OF SECTION

SECTION 06100 ROUGH CARPENTRY

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

The carpentry work required for this project is shown in the Drawings and includes, but is not necessarily limited to framing, blocking, sheathing, backing, inserts, fasteners, framing anchors and other hardware, and all other materials or items needed for Carpentry but not specifically described in other sections of this specification.

B. Related Work Specified Elsewhere:

- |    |                   |               |
|----|-------------------|---------------|
| 1. | Lumber:           | Section 06010 |
| 2. | Finish carpentry: | Section 06200 |

1.02 QUALITY ASSURANCE

A. For actual cutting, fitting, and installing of the rough carpentry and associated woodwork, employ only qualified journeymen mechanics who are trained and experienced in the skills required and who are completely familiar with the materials and methods involved.

B. Qualifications of Supervisors:

Employ at least one supervisor who is thoroughly trained in the trade, who is completely familiar with the requirements of the work, who shall be present during all the rough carpentry operations, and who shall direct all the work under this section.

1.03 PRODUCT HANDLING

A. Storage and Protection:

Do not deliver any of the products of this section to the jobsite until a secure, dry, sheltered area, away from traffic, is available for their storage. Use all means necessary to protect the products of this section before, during, and after installation and to protect the installed materials and work of all other trades.

B. Repairs and Replacement:

In the event of damage make all repairs and replacements necessary to restore the item to original undamaged condition. Repairs and replacements shall be subject to approval of the Architect and shall be accomplished at no additional expense to the Owner.

## PART 2 PRODUCTS

### 2.01 MATERIALS

A. Lumber: Refer to Section 06010 "Lumber".

B. Metal connector plates, fasteners and anchorages.

1. Connector plate material:

Metal Complying with following requirements, unless otherwise indicated; not less than "0.036" thick, coated thickness at the Contractors option.

- a. Galvanized sheet steel:  
ANSI/ASTM A 446, Grade A, Coating G60.
- b. Electrolytic zinc coated steel sheet:  
ANSI/ASTM A 591, Coating Class C, with minimum structural quality equivalent to ANSI/ASTM A 446, Grade A.
- c. Stainless steel:  
ANSI/ASTM A 167, Type 304, with minimum structural quality equivalent to ANSI/ASTM A 446, Grade A.

2. Manufacturer:

- a. Metal connector plates shall be "Simpson" as manufactured by the Simpson Strong-Tie Company, Inc. or approved equal.

## PART 3 EXECUTION

### 3.01 PREPARATION

Verify plan layout with approved shop drawings, coordinate with blocking and nailer requirements for various sections of the Work. Promptly notify Architect of discrepancies and do not proceed in questioned areas until fully resolved.

### 3.02 INSTALLATION

A. General:

Install all work in strict accordance with the design, the approved submittals, and all applicable codes and regulations. All wood framing shall be true, straight and plumb to within 1/4" in 12 foot of length.

B. Workmanship:

Discard material with defects which might impair the quality of the work, and units which are too small to fabricate into the work with minimum joints, or with optimum joint arrangement.

Set all work accurately to required levels and lines, with members plumb and true; accurately cut and fitted. Workmanship shall conform to NFPA Construction Specification.

C. Grounds, Nailers, Blocking, Backing:

1. All material in contact with concrete or built-up roofing shall have moisture protection treatment as specified.
2. Provide where shown or where required for screening or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate with other work or trades involved.
3. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces unless otherwise shown.

D. Plywood:

Install as recommended by APA "Guide to Plywood Sheathing for Floors, Walls, and Roofs", using tight butt joints with edges true and plumb. Back vertical joints as required to keep edges flush. Provide thicknesses shown, or if not shown, provide thickness recommended by APA.

E. Fastening and Support:

1. Securely attach carpentry work to substrates by anchoring and fastening as shown or necessary, or required by recognized standards.
2. Nail as appropriate to the particular item according to nailing tables in the applicable edition of the Uniform Building Code.
3. Use common wire nails except as otherwise indicated. Use finish nails for finish work.
4. Select fasteners that will not penetrate where opposite side will be exposed to view or receive finish materials.
5. Pre drill as necessary to prevent splitting. Do not lubricate fasteners where friction is essential to develop strength.

K+A designstudios, P.C.

---

6. Screw, do not drive wood screws and lag bolts, except that they may be started by driving and then screwed home.
7. Provide joist hangers, post caps, post bases, and attachment clips as necessary to provide a fully supported and securely attached member at all connecting points and bearing locations.
8. Provide continuous solid support under header and beam bearing points continuous to foundation.

F. Other Items:

Install other items in compliance with original design, approved submittals, and applicable codes and regulations. Anchor all work into place for long life under hard use.

3.03 CLEAN UP

Remove all work related debris and at completion leave work broom clean.

END OF SECTION

SECTION 06200 FINISH CARPENTRY

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Finish carpentry items, other than shop prefabricated casework.
2. Hardware and attachment accessories.
3. Refer to schedule at end of this Section

B. Related Work Described Elsewhere:

- |                               |               |
|-------------------------------|---------------|
| 1. Steel Doors and Frames     | Section 08111 |
| 2. Door Hardware              | Section 08700 |
| 3. Glazing                    | Section 08800 |
| 4. Painting                   | Section 09900 |
| 5. Chalkboards and Tackboards | Section 10100 |
| 6. Modular Casework           | Section 12302 |

C. REFERENCES

1. ANSI/HPHA HP American Standard for Hardwood and Decorative Plywood.
2. ANSI A135.4 Basic Hardboard
3. AWI Quality Standards.
4. FS MM-L-736 Lumber; Hardwood.
5. FS MMM-A-130 Adhesive, Contact.
6. NEMA LD-3 High Pressure Decorative Laminates.
7. PS 1 Construction and Industrial Hardwood.
8. PS 20 American Softwood Lumber Standard.
9. UL Underwriters Laboratories.

1.02 SUBMITTALS

- A. Submit shop drawings in accordance with Section 01340.
- B. Submit shop drawings indicating material, component profiles, fastening methods, jointing details, finishes, accessories, and hardware to a minimum scale of 1-1/2 in. to one ft.
- C. Submit product data under provisions of Section 01340.
- D. Submit product data on hardware.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site under provision of Section 01610.
- B. Store and protect products under provisions of Section 01620.
- C. Store materials in ventilated, interior locations under constant minimum temperatures of 60 degrees F and maximum relative humidity of 55 percent.

## PART 2 PRODUCTS

### 2.01 LUMBER MATERIALS

- A. Softwood Lumber: PSA 20; Douglas Fir, Quality Grade II in accordance with AWI, maximum moisture content of 8 percent.
- B. Softwood Lumber: 2 x 8 appearance grade Spruce Pine Fir (SPF), maximum moisture content of 9 percent.
- C. Hardwood Lumber: Quality Grade I in accordance with AWI; maximum moisture content of 8 percent; Birch Select Grade, with plain sawn grain, of quality capable of transparent finish.

### 2.02 SHEET MATERIALS

- A. Softwood Plywood: PS 1; Standard Sheathing Grade, Group 1, BD Appearance Quality; Douglas Fir species, with face veneer of rotary cut grain. Hardwood Plywood: Hickory Select Grade veneer AB appearance.
- B. MDO 4 x 8 x 5/8": Paint Grade 1 side at interior of Apparatus bays.
- C. Wood Particleboard: Composed of wood flakes made with waterproof resin binders of 45 lbs. per cu. ft. density; sanded faces.
- D. Hardboard: ANSI A135.4 pressed wood fiber with resin binder; tempered grade.
- E. Stainless Steel: Heavy Gauge Type 304.

### 2.03 PLASTIC LAMINATE MATERIALS

- A. 0.050 in. General Purpose Grade and FR Grade in accordance with 'Regulatory Requirements' Article above; satin surface finish; manufactured by Formica, Nevamar, or Wilsonart; Color and pattern as selected. Provide vertical grade or horizontal grade at each applicable location, and aluminum edging & corners.
  - 1. Plastic Laminate Backing: High pressure paper base laminate without a decorative finish; 0.020 inch thick, smooth surface finish.
  - 2. Adhesive: Use poly vinyl acetate (PVA) or contact type adhesive, compatible per Wilsonart contact types.
  - 3. Backer Board: Provide 5/8 in. medium density fiber board (MDF) beneath plastic laminate wainscot to the extent shown on the drawings. Provide solid blocking at MDF and GWB interface between studs.

### 2.05 ACCESSORIES

- A. Nails: Size and type to suit application, galvanized finish.
- B. Bolts, Nuts, Washers, Blind Fasteners, Lags and Screws: Size and type to suit application, galvanized finish.
- C. Primer: Alkyd primer sealer type.
- D. Wood Filler: Solvent or Oil base, tinted to match surface finish color, compatible with finish system specified in Section 09900.

- E. Plastic Edge Trim: Heavy duty extruded 2mm PVC, applied with waterproof hot-melt adhesive; 1/8 in. radius, all corners. Color as selected.

## 2.06 HARDWARE

### A. Cantilever Shelves

1. Manufacturer: Global Industrial – [www.globalindustrial.com](http://www.globalindustrial.com)
2. Quantity: 3
3. Location: Janitor/Storage Areas
4. Width: 60"
5. Depth: 12"
6. Color Finish: Chrome
7. Brand: Nexel
8. Construction: Steel
9. Model: 752201

### B. Circulation Desk Stand-Offs:

1. Manufacturer: Doug Mockett & Company, Inc.
2. Type: Multi-Purpose Aluminum Stand-Offs
  - a. Cap: 1/2" Height, MPB11/CAP1-94
  - b. Screw Length: 1 1/2" Length, MPB-HD-S22
  - c. Barrel Height: 4" Height, MPB9/4-94
  - d. Mounting Hardware - Concrete Anchor
    1. MPB11, 1 1/2" dia. (5/16 - 18 thread)
    2. MPB-HD-CON

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that surfaces and openings are ready to receive work and field measurements are as shown on shop drawings.
- B. Verify mechanical, electrical, and building items affecting work of this Section are placed and ready to receive this work.
- C. Beginning of installation means acceptance of substrate.

### 3.02 PREPARATION

- A. Before installation, prime paint surfaces of items or assemblies to be contact with cementitious materials.

### 3.03 INSTALLATION

K+A designstudios, P.C.

---

- A. Install work in accordance with AWI Custom quality standard.
- B. Set and secure materials and components in place, plumb and level.
- C. Install components with finish nails, screws or bolts; with blind fasteners at 16 in. on center whenever possible, and wall adhesive by gun application. Set all surface nails.
- D. Unless otherwise indicated, cover exposed edges of plywood and particle board shelving and site made casework with pvc edging applied with hot melt adhesive. Width of edging to match thickness of shelving. Color selected.
- E. Apply plastic laminate finishes where indicated. Adhere with adhesive over entire surface. Make joints and corners hairline. Match patterns. Slightly bevel arises. Cap exposed edges with plastic laminate of same finish and pattern. Apply laminate backing sheet on reverse side of plastic laminate finished surfaces.
- F. Install hardware in accordance with manufacturer's instructions.

#### 3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 in.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 in.

#### 3.05 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentation. Sand work smooth.
- B. Site Finishing: Refer to Section 09900.

#### 3.06 PROTECTION

- A. Protect finished installation under provisions of Section 01500.

#### 3.07 SCHEDULE

- A. Interior:
  - 1. Adjustable Shelves: Where shown on Drawings provide adjustable shelves with standards and brackets specified, depth shown; standards length indicated; 8 in. maximum from shelf ends; brackets as specified, depth required, number required; shelf material 1 in. thick x length and depth shown, wood particleboard with polyester laminate on top and bottom surfaces, and cover edges of shelving with 2 mm pvc edging applied with hot melt adhesive, number of rows indicated. Mount standards to studs and coordinate framing installation with required standard locations.
  - 2. Molding and Miscellaneous Trim: Hardwood lumber, kiln-dried, surfaced 4 sides and worked to patterns shown or specified, painted as specified under Section 09900.
  - 3. Other Finish Carpentry Work: As shown, and/or specified, and similar to items scheduled above.

END OF SECTION

SECTION 06455

SIMULATED WOOD TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Simulated Wood Trimboards.
- B. Simulated Wood Panels.

1.2 RELATED SECTIONS

- A. Section 06110 - Wood Framing.
- B. Section 06200 - Finish Carpentry: Woodwork.
- C. Section 06300 - Exterior Finish Carpentry.
- D. Section 06400 - Interior Finish Carpentry.
- E. Section 06450 - Standing and Running Trim.
- F. Section 07910 - Joint Sealants.
- G. Section 09250 - Gypsum Board.
- H. Section 09900 - Paints and Coatings.

1.3 REFERENCES

- A. ASTM D 792 – Density and Specific Gravity of Plastics by Displacement.
- B. ASTM D 570 – Water Absorption of Plastics.
- C. ASTM D 638 – Tensile Property of Plastics.
- D. ASTM D 790 – Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- E. ASTM D 792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
- F. ASTM D 1761- Mechanical Fasteners in Wood.
- G. ASTM D 5420 – Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by Falling Weight.
- H. ASTM D 256 – Determining the Pendulum Impact Resistance of Plastics.
- I. ASTM D 696 – Coefficient of Linear Thermal Expansion of Plastics Between -30 deg C and 30 deg C with a Vitreous Silica Dilatometer.
- J. ASTM D 635 - Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
- K. ASTM E 84 – Surface Burning Characteristics of Building Materials

- L. ASTM D 648 – Deflection Temperature of Plastics Under Flexural Load in Edgewise Position.
- M. ASTM 3679 – Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods, including nailing patterns.
- C. Verification Samples: For each finish profile specified, two samples, minimum size 6 inches (150 mm) long, representing actual product and patterns finish.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A minimum of 10 years in the manufacture of PVC products.
- B. Installer Qualifications: A minimum of 3 years in the installation of PVC products.
- C. Mock-Up: Provide a mock-up for evaluation of profiles and installation techniques and workmanship.
  - 1. Finish areas designated by Architect.
  - 2. Include mock-up for each profile combination indicated on the Drawings
  - 3. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 4. Refinish mock-up area as required to produce acceptable work.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.

#### 1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.8 WARRANTY

- A. Warranted to the original Owner under normal and proper use to be free of manufacturing defects for a period of 25 years.

#### 1.9 COORDINATION

- A. Coordinate Work with other operations and installation of trim to avoid damage to installed materials.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: CertainTeed Corp., CertainTeed Restoration Millwork, which is located at: 750 E. Swedesford Rd. ; Valley Forge, PA 19482; Toll Free Tel: 800-233-8990 ; Fax: 610-341-7940 ; Email: request info; Web: <http://www.certainteed.com/products/trim>.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 2.2 MATERIAL

- A. General: CertainTeed Restoration Millwork is a Freefoam Cellular PVC that is homogenous and free of voids, holes, cracks, and foreign inclusions and other defects. Edges must be square and top and bottom surfaces shall be flat with no convex or concave deviation.
- B. Physical Properties: Free foam cellular PVC material with a small-cell microstructure of 0.60 grams/cm<sup>3</sup> in accordance with ASTM D 792 with the following physical and performance properties:
  - 1. Mechanical:
    - a. Tensile Strength: 1261 psi when tested in accordance with ASTM D 638.
    - b. Tensile Modulus: 79,463 psi when tested in accordance with ASTM D 638.
    - c. Flexural Strength: 4082 psi when tested in accordance with ASTM D 790.
    - d. Nail Hold: 66 (finish nail) lbf/in of penetration when tested in accordance with ASTM D 1761.
    - e. Screw Hold: 593 lbf/in of penetration when tested in accordance with ASTM D 1761.
    - f. Gardner Impact: 16 in-lbs when tested in accordance with ASTM D 4226.
    - g. Charpy Impact (23 deg C): 0.1526 ft-lbs/in when tested in accordance with ASTM D 256.
  - 2. Thermal:
    - a. Coefficient of Linear Expansion: 3.2 x10<sup>-5</sup> in/in/deg F when tested in accordance with ASTM D 696.
    - b. Burning Rate: No burn when flame removed when tested in accordance with ASTM D 635.
    - c. Flame Spread Index: 20 when tested in accordance with ASTM E 84.
  - 3. Manufacturing Tolerances:
    - a. Variation in component length: minus 0.00 plus 1.00 inch.
    - b. Variation in component width: plus or minus 1/16 inch.
    - c. Variation in component edge cut: plus or minus 2 degrees.
    - d. Variation in Density: minus 0 percent to plus 10 percent.
- C. Workmanship, Finish, and Appearance:
  - 1. Products are provided with a natural white color and a smooth finish on both sides.
  - 2. Products do not require paint for protection but may be painted to achieve a custom color.

### 2.3 SIMULATED WOOD TRIM

- A. General:
  - 1. Provide simulated wood trim to the following profiles and to the configurations indicated on the Drawings.
  - 2. Provide simulated wood trim to the following profiles and to the configurations defined on the Schedule at the end of the section.

- B. Trim Boards:
1. Nominal Thickness: 5/4 inches (32 mm).
  2. Nominal Width:
    - a. 4 inches (102 mm).
    - b. 6 inches (152 mm).
    - c. 8 inches (203 mm).
    - d. 10 inches (254 mm).
    - e. 12 inches (305 mm).
    - f. 16 inches (406 mm).
  3. Nominal Length: 18 feet (5.48 m).
  4. Finish:
    - a. Smooth Natural White.

- C. Panel:
1. Nominal Thickness: 3/8 inch (9.5 mm)
  2. Nominal Width: 4 feet (1.22 m).
  3. Nominal Height:
    - a. 8 feet (2.44 m).
    - b. 10 feet (3.05 m).
    - c. 18 feet (5.49 m).
  4. Finish:
    - a. Smooth Natural White.

## 2.4 ACCESSORIES

- A. Fasteners:
1. Use fasteners designed for wood trim and siding (thinner shank, blunt point, full round head).
  2. Use a highly durable fastener such as stainless steel or hot dipped galvanized steel.
  3. Staples, small brads and wire nails must not be used as fastening members.
  4. Fasteners should be long enough to penetrate a solid wood substrate a minimum of 1-1/2 inch (38 mm).
  5. The use of standard nail guns is acceptable.
  6. Use two fasteners per every framing member for trimboard applications. Use additional fasteners for trimboards 12 inches (305 mm) or wider, as well as sheets.
  7. Install fasteners no more than 2 inches (51 mm) from the end of the board.
  8. Fasten trim into a flat, solid substrate. Fastening trim into hollow or uneven areas must be avoided.
  9. Pre-drilling is typically not required unless a large fastener is used or product is being installed in low temperatures.
- B. Adhesives:
1. Glue all trim joints (scarf or miter) with a cellular PVC cement/adhesive such as TrimTight or Bond & Fill.
  2. Glue joints should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
  3. Surfaces to be glued should be smooth, clean and in complete contact with each other.
  4. Various adhesives may be used. Consult adhesive manufacturer to determine suitability.
- C. Sealants:
1. Use urethane, polyurethane or acrylic based sealants without silicone as specified in Section 07910.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Prior to installation, verify governing dimensions of and condition of substrate.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Examine, clean, and repair as necessary any substrate conditions that would be detrimental to proper installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
  - 1. Comply with all terms necessary to maintain warranty coverage.
  - 2. Use trim details indicated on Drawings.
  - 3. Touch up all field cut edges before installing.
- B. Cutting:
  - 1. Use carbide tipped blades designed to cut wood. Do not use fine-tooth metal-cutting blades or plywood blades.
  - 2. Avoid rough edges from cutting caused by: excessive friction, poor board support, worn saw blades or badly aligned tools.
- C. Drilling:
  - 1. Drill with standard woodworking drill bits.
  - 2. Do not use bits made for rigid PVC.
  - 3. Avoid frictional heat build-up and remove shavings from the drill hole frequently.
- D. Milling:
  - 1. Mill using standard milling machines used to mill lumber.
  - 2. Relief angle 20 to 30 degrees.
  - 3. Cutting speed to be optimized with the number of knives and feed rate.
- E. Routing:
  - 1. Use sharp carbide tipped router bits.
- F. Edge Finishing:
  - 1. Use machine edging, sanding, grinding, or filling to finish edges.
- G. Nail Location:
  - 1. Refer to fastening schedule and diagrams in the most current version of the manufacturer's installation manual for recommended fastener spacing.
  - 2. Install fasteners no more than 3/4 inches (19 mm) from the end of each board.

- H. Thermal Expansion and Contraction:
  - 1. Expansion and contraction will occur with changes in temperature.
  - 2. When properly fastened, allow 1/4 inch (6 mm) per 18 foot (5.49 m) for expansion and contraction.
  - 3. Joints between pieces should be glued to eliminate joint separation. When gaps are glued on a long run, allow for expansion and contraction at the end of the runs.
  
- I. Finishing.
  - 1. Correct dents and gouges before applying final coating.
  - 2. Prepare surfaces and paint materials as recommended by the molding manufacturer. Paint as specified in Section 09900.
  - 3. If moldings get dirty during installation, clean with a soft bristle brush and a bucket of soapy water. For stubborn stains, mold or mildew, use a cleaner suitable for PVC products.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 07110 SHEET MEMBRANE AND WATERPROOFING

PART 1 - GENERAL

1.01 RELATED SECTIONS

- A. Section 07620 - Sheet Metal Flashing, Trim, and Gutters

1.02 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this Specification. The Publications may be referred to in the text by basic designations only. In case of conflict the most stringent shall apply.
  - 1. ASTM D146 – Methods of Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.
  - 2. ASTM D412 – Test Methods for Rubber Properties in Tension.
  - 3. ASTM E96 – Test Methods for Water Vapor Transmission of Materials.
  - 4. ASTM E154 – Methods of Testing Materials for Use as Vapor Barriers under Concrete Slabs and as Ground Cover in Crawlspace.

1.03 DESCRIPTION

- A. Waterproofing system to provide continuous protection against water intrusion for below-grade concrete walls and floors.

1.04 SUBMITTALS

- A. Product Data: Indicate performance data, materials, recommended use, application instructions, substrate surface preparation, joints, penetrations, terminations and special curing requirements.
- B. Manufacturer and Installer qualifications.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum of five years experience manufacturing and supplying specified products. Also provide list of at least ten project references where specified product was used, including project name, telephone contact, location, date, and product usage.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply waterproofing at ambient temperatures or in conditions other than those recommended in writing by the manufacturer and in no case when temperatures are expected to be below 40 degrees F, in rain or snow, or with dirt, frost or water on surfaces to be coated.

1.07 WARRANTY

- A. Manufacturer to warrant materials are free from defects for a period of five years after Substantial Completion.

- B. Contractor to warrant installation, free from water leaks, for a period of one year after Substantial Completion.

## PART 2 – PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURER

- A. W.R. Grace, "Bituthene Low Temperature Waterproofing Membrane".

### 2.02 MEMBRANE WATERPROOFING

- A. Pre-manufactured, elastomeric, self-adhering sheet membrane waterproofing composed of high-strength polyethylene bonded to rubberized asphalt recommended by manufacturer for below grade application.
- B. Minimum Total Thickness: 0.060 inches (60 mil); 0.004 inch minimum thickness of high-strength polyethylene film, bonded 0.056 inch minimum thickness of rubberized asphalt.
- C. Water Permeance: 0.1 perm maximum per ASTM E96.
- D. Hydrostatic Head: To withstand 150 feet of water.
- E. Tensile Strength: 250 psi minimum per ASTM D412.
- F. Puncture Resistance: Forty pounds per ASTM E154.
- G. Pliability: 180 degree bend over 1 inch mandrel at 25 F per ASTM D146.

### 2.03 ACCESSORIES

- A. Primers, adhesives, mastics, flashings, sealants, and other accessories necessary for a complete, water-tight application as recommended by membrane manufacturer.

### 2.04 PROTECTION BOARDS

- A. Provide 1" minimum thickness of rigid insulation as shown in drawings, at minimum over sheet membrane waterproofing.

## PART 3 – EXECUTION

### 3.01 INSPECTION OF SURFACES

- A. Examine surfaces to receive work for defects that will adversely affect the completed installation and for deviations beyond the allowable tolerances.
- B. Surfaces clean, dry, smooth, cured, and free from voids or projections that would damage or impair bond of membrane.
- C. Concrete to receive waterproofing shall be cured at fifty degrees to seventy degrees Fahrenheit for a minimum of seven days, per American Concrete Institute (ACI) 301, and dry before installation of waterproofing.

- D. Verify that mechanical and electrical penetrations are complete and ready for cover.
- E. Start of work means acceptance of the interfacing surfaces as capable of producing an acceptable job.

### 3.02 APPLICATION

- A. Complete and in accordance with the approved manufacturer's written recommendations for type of application proposed. Press out membrane with mechanical roller to minimize wrinkles and bubbles.
- B. Install to provide continuous, unbroken, waterproof envelope under floor, outside footings and up outside of walls.
- B. Seal substrate cracks and joints with membrane manufacture's recommended materials.

### 3.03 INSTALLATION

#### A. Primer Application:

- 1. Apply approved primer to clean sound wood or concrete surfaces in accordance with manufacturer's recommendations.
- 2. Allow primer to dry one hour or until tack free.
- 3. Prime only areas that will be covered with the membrane on the same day. Areas not covered within twenty-four hours shall be re-primed.

#### B. Membrane Application:

- 1. Apply continuously over wood or cured concrete surfaces in accordance with manufacturer's recommendations. Lap joints to shed water.
- 2. Apply membrane in double thickness at each control and construction joint, and lap six inches minimum.
- 3. Vertical and horizontal terminations: press membrane firmly to wood or concrete and apply a trowel bead of mastic to exposed edges.
- 4. Lap edge and end seams three-inch minimum.
- 5. Adhere membrane with heavy pressure to concrete surfaces without stretching.
- 6. Slit and repair all fishmouths, with a patch lapped six inches in all directions. Seal with manufacturer approved adhesive.
- 7. Corners: apply a double thickness of membrane at all corners. Inside corners shall have a two-inch minimum fillet of mastic.
- 8. Apply a double layer of membrane projecting at least six inches around all floor drains and other floor, wall penetrations. Seal penetrations with mastic.
- 9. Completed work shall be smoothly and completely adhered to wood or concrete surfaces.

#### C. Protection Board Installation:

- 1. Adhere to membrane with approved adhesive to completely cover and protect the membrane.
- 2. Install immediately after membrane installation.

3.04 SHEET MEMBRANE WATERPROOFING SCHEDULE

- A. Concrete and Pressure Treated Wood building elements below ground around perimeter of foundation, including a minimum five foot lap along adjacent walls.

3.05 PROTECTION BOARD SCHEDULE

- A. Install protection board over all vertical waterproofing, and over sub-grade portion of walls not covered by exterior foundation insulation.

END OF SECTION 07110

SECTION 07190 VAPOR RETARDER

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Sheet materials required to continue vapor retarder from wall to roof, fascia, soffit, and floor construction
2. Sheet materials, required to continue vapor retarder from wall to window, door and louver frames.

B. Products Furnished but Not Installed Under This Section:

1. Furnish Vapor Retarder Type 2 to Section 03300 for installation under slabs on grade.

C. Related Work Described Elsewhere:

- |                           |               |
|---------------------------|---------------|
| 1. Board Insulation       | Section 07212 |
| 2. Batt Insulation        | Section 07213 |
| 3. Joint Sealers          | Section 07900 |
| 4. Steel Doors and Frames | Section 08111 |

D. Reference Standards:

1. Federal Specifications (FS):
  - a. TT-S-230 Sealing Compound, Synthetic Rubber Base, Single Component, Chemically Cured for Caulking, Sealing and Glazing.
  - b. FF-N-105 Nail, Brads, Staples, and Spikes: Wire, Cut and Wrought.

1.02 SYSTEM DESCRIPTION

- A. Materials of this Section shall provide continuity of building enclosure vapor and are barrier in conjunction with materials in Sections 07212, 07213, and 07214.
- B. Sheet and sealing materials to seal gaps between building enclosure components.

1.03 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions under provisions of Section 01340.
- B. Submit complete description information and a certificate of compliance with requirements of these specifications.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

Vapor Retarder: (Limited Locations) Minimum 6 mil thick clear polyethylene film conforming to physical property requirements of ASTM C171; 0.08 perm rating or lower vapor transmission.

1. Vapor retarder material is limited to locations where the sheet material is in substantial contact with the unexposed surface of the wall or ceiling finish, per UBC 1713 (c), exception 2.

## 2.02 SEALANTS

- A. Sealant: Specified under Section 07900.
- B. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

## 2.03 ADHESIVES

- A. Adhesive for Bonding Field Applied Laps and Joints: Conform to recommendations of manufacturer of the vapor retarder material for its intended use; non-flammable when dry, non-corrosive to metals, and non-leaching; suitable for permanent joints in the vapor retarder.
  1. Joints bonded with the adhesive material shall remain flexible at temperatures between 0 degrees F and 120 degrees F and withstand alternate freezing and thawing without detrimental effects.
- B. Mastic for applying on vapor retarder where penetrations are anticipated shall conform to recommendations of manufacturer of the vapor retarder material for its intended use.
  1. Adhesives and mastic shall be compatible with the materials to which applied, and shall not corrode, soften or otherwise attack the vapor retarder materials in either the wet or dry state.
- C. Adhesive for Vapor Retarder: Gun grade mastic type compatible with sheet barrier and substrate, permanently noncuring.

## 2.04 ACCESSORIES

- A. Tape: Oriented polypropylene with acrylic adhesive, providing the following minimum characteristics:
  1. 100 percent elongation, 20 lb/in. tensile strength.
  2. 16 oz./in. 180 degree peel adhesion.
  3. Working temperature range: -30 degrees F to 200 degrees F.
  4. Moisture vapor transmission: 0.4 gm/100 sq in. in 24 hours at 100 degrees F and 90 percent R.H.
- B. Fasteners: Galvanized, large headed roofing nails or staples; FS FF-N-105.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Review and coordinate sequencing of work to ensure that everything to be covered by vapor retarder has been accomplished, and that openings, chases, supplementary framing, and blocking and similar provisions have been completed. Verify that insulation has been properly installed voids, gaps or sags.

- B. Verify substrate materials are clean and dry, ready to receive work of this Section. Remove loose or foreign matter which impairs adhesion.
- C. Coordinate work with other affected Sections. Protect insulation at all times against migration of moisture vapor.
- D. Clean and prime substrate surfaces to receive adhesive and sealants in accordance with manufacturer's instructions. Comply with manufacturer's instructions regarding application temperature limitations.

### 3.02 INSTALLATION

- A. Secure vapor retarder with compression-type automatic staplers or large headed nails. Adjust pressure of staplers to avoid rupturing or tearing vapor retarder material.
- B. Lap joints minimum 16 in. Provide vapor retarder over the top of interior partitions to provide 16" lap at ceiling vapor retarder. This minimum lapping shall apply to all areas where the vapor retarder material unites with itself or other materials or surfaces such as at corners and wall openings. Repair or replace vapor retarder material with tears, breaks or ruptures. Seal all laps with adhesive or tape, as appropriate to condition to achieve vapor tight construction. Laps to occur over framing or furring.
- C. Install vapor retarder with square internal corners to facilitate installation of finish materials.
- D. Tape termination of vapor retarder to substrate.
- E. Seal fastener and other penetrations (including electrical boxes and pipes) through vapor retarder with adhesive or tape, as appropriate to condition to achieve vapor tight construction.
  - 1. Where pipes, conduits, fixtures, wiring or outlets boxes, etc., penetrate the vapor retarder, the penetration and retarder shall be sealed vapor tight. Wall and fascia openings shall be completely sealed to the inside edges of the finished frames. Special care shall be exercised to insure that the retarder is adequately sealed at all junctions, corners, edges and penetrations.
- F. Apply adhesive in strict accordance with the adhesive manufacturer's printed instructions.
- G. Install vapor retarder between door and window frames and adjacent wall and seal with adhesive. Equal to "Tremco" acoustic sealant. Caulk with sealant to ensure complete seal.
- H. After installation of vapor retarder, adhesive and tape, and minimum 24 hours prior to installing any wall finish, in each area, Contractor shall notify Owner's Representative. Vapor retarder installation will be thoroughly inspected prior to concealment. Any break, rupture, tear, or failure to provide a positive vapor retarder seal shall be sealed vapor tight in an approved manner.
- I. Do not allow finished to be applied over vapor retarder which has not been inspected.

END OF SECTION



SECTION 07212 BOARD INSULATION

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Perimeter foundation wall insulation and below all snow-melt systems.
2. Refer to schedule at end of this Section.

B. Related Work Described Elsewhere:

1. Vapor Retarder Section 07190
2. Batt Insulation Section 07213

C. Reference Standards:

1. American Society for Testing and Materials (ASTM):
  - a. C272-53 (1980) Water Absorption of Core Materials for Structural Sandwich Construction.
  - b. C518-76 Steady - State Thermal Transmission Properties by Means of the Heat Flow Meter.
  - c. C578-85 Preformed, Cellular Polystyrene Thermal Insulation.
  - d. D1621-73 (1979) Compressive Properties of Rigid Cellular Plastics.
  - e. D2842-69 (1975) Water Absorption of Rigid Celular Plastics.

1.02 SYSTEM DESCRIPTION

- A. Materials of this Section shall provide a continuous thermal barrier at building enclosure elements, in conjunction with insulation specified in Section 07213.

1.03 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions under provision of Section 01340.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. The Dow Chemical Company
- B. UC Industries
- C. Western Insulfoam

2.02 INSULATION MATERIALS

- A. Extruded Rigid Insulation: ASTM C578, type VI extruded polystyrene, thickness shown, Styrofoam "SM" or Foamular "400".

1. Minimum density: 2.0 pcf.
  2. Minimum compressive strength: 25 psi at 10 percent deformation or yield per ASTM D1621.
  3. Maximum water absorption: 1 percent by volume after 96 hr. soak test per ASTM D2842.
  4. Minimum aged 'R' value per one in. thickness: ASTM C518 5.0 at 75 degrees F.
  5. Provide 1" high-density below all snow-melted concrete.
- B. Expanded Rigid Insulation: ASTM C578, expanded cellular polystyrene, thickness shown, similar and equal to Western Insulfoam's "Insulfoam II".
1. Minimum density: 2.0 pcf.
  2. Minimum compressive strength: 35 psi at 5 percent deformation or yield per ASTM D1621.
  3. Maximum water absorption: 1 percent by volume after 96 hr. soak test per ASTM D2842.
  4. Minimum 'K' value per ASTM C518: 0.22 at 75 degrees F.

### 2.03 ADHESIVE MATERIALS

- A. Adhesive: As recommended by protection board manufacturer for application, and compatible with insulation and dampproofing materials.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Verify substrate and adjacent materials and insulation boards are dry and ready to receive insulation and adhesive.
- B. Verify substrate surface is flat, free of honeycomb, fins, irregularities, and materials that impede adhesive bond.
- C. Verify insulation boards are unbroken, free of damage and with surfaces intact.

### 3.02 INSTALLATION - EXTRUDED RIGID INSULATION

- A. Apply to inside face of foundation walls below grade in accordance with Drawings and manufacturer's instructions. Do not leave exposed to sunlight.
- B. Apply adhesive in three continuous beads per board length.
- C. Place boards by method to maximize contact bedding. Butt edges and ends tight to adjacent boards and to protrusions.

3.03 SCHEDULE

Location:

Type:

A. Exterior Perimeter Foundation Wall:

Extruded Rigid  
or  
Expanded Rigid

B. Provide board insulation at other locations as shown and as required to provide a continuous thermal barrier at the building enclosure elements and where not otherwise specified in Sections 07213 and 07214.

END OF SECTION



SECTION 07213 BATT INSULATION

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Thermal insulation in exterior frame wall and attic construction.
2. Sound Attenuation Batts Fiber Glass.
3. Fiber Glass Loosefill Insulation.
4. Batt insulation for filling perimeter window and door shim spaces, and crevices in exterior wall and roof assemblies.

B. Related Work Described Elsewhere:

- |                           |               |
|---------------------------|---------------|
| 1. Vapor Retarder         | Section 07190 |
| 2. Board Insulation       | Section 07212 |
| 3. Joint Sealants         | Section 07900 |
| 4. Gypsum Drywall Systems | Section 09250 |

C. References:

American Society for Testing and Manufacturing (ASTM) :

1. C518-85 Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter.
2. C665-86 Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
3. E84-87 Surface Burning Characteristics of Building Materials.

1.02 SYSTEM DESCRIPTION

- A. Provide thermal barrier at building enclosure elements in conjunction with insulation specified in Section 07212, and vapor retarder materials in Section 07190.

1.03 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions under provision of Section 01340.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Owens Corning.
- B. Manville
- C. CertainTeed.

## 2.02 INSULATION MATERIALS

### A. Fibrous Insulation:

1. Thermal insulation: ASTM C665 unfaced, friction fit blanket. Thickness indicated, 1 lb. density.
2. Minimum 'R' value per inch of thickness: 3 per ASTM C518.
3. Flame Spread: 25 maximum per ASTM E84.

### B. Sound Attenuation Batts: Interior partition systems, metal frame construction 3 ½ x 89mm thickness. Complying with ASTM C 665, Type 1 and ASTM E 136.

### C. PINK Fiber Glass Loosefill Insulation, blown-in insulation, to provide an R-42 value, at locations shown on the drawings.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Verify adjacent materials are dry and ready to receive installation.
- B. Verify mechanical and electrical services within walls have been installed and tested.

### 3.02 INSTALLATION

- A. Install batt insulation in accordance with manufacturer's instructions.
- B. Install batt insulation in exterior wall spaces between framing members and elsewhere as indicated, without gaps or voids.
- C. Staple wall insulation at top to prevent sagging.
- D. Trim insulation neatly to fit spaces. Use batts free of damage.
- E. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation. Leave no gaps or voids.
- F. Stuff loose insulation into miscellaneous voids and cavity spaces as indicated. Compact to approximately 40 percent of normal volume.

END OF SECTION

SECTION 07214 FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Foamed-in-place insulation in exterior door frames and in crevices requiring thermal seal.

B. Related Work Described Elsewhere:

- |                           |               |
|---------------------------|---------------|
| 1. Vapor Retarder         | Section 07190 |
| 2. Board Insulation       | Section 07212 |
| 3. Batt Insulation        | Section 07213 |
| 4. Joint Sealers          | Section 07900 |
| 5. Steel Doors and Frames | Section 08111 |

C. References:

American Society for Testing and Materials (ASTM) :

1. C177-76 Steady-State Thermal Transmission Properties by Means of the Guarded Hot-Plate
2. D1622-83 Apparent Density of Rigid Cellular Plastics
3. D2482-76 Wax Pick Test for Surface Strength of Paper
4. E84-84 Surface Burning Characteristics of Building Materials.
5. E96-80 Water Vapor Transmissions of Materials.
6. E119-83 Fire Tests of Building Construction and Materials.

1.02 REGULATORY REQUIREMENTS

A. Conform to Uniform Building Code for flame/fuel/smoke and concealment requirements.

1. Flame spread: Less than or equal to 75, per ASTM E84.
2. Smoke Developed Rating: Less than or equal to 450, per ASTM E84.
3. Separate building interior from foam insulation by a thermal barrier having an index of 15 or more, when tested in accordance with ASTM E119.

1.03 SUBMITTALS

- A. Submit product data and manufacturer's installation instructions under provision of Section 01340.
- B. Include product description, insulation properties and preparation requirements.

#### 1.04 ENVIRONMENTAL REQUIREMENTS

- A. Do not install insulation when ambient temperature is lower than 70 degrees F.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS

- |    |                           |          |           |
|----|---------------------------|----------|-----------|
| A. | Insta-Foam Products, Inc. | Product: | Froth-Pak |
| B. | Reichold                  | Product: | 34-841    |
| C. | Upjohn-CPR Div            | Product: | CPR-832-3 |

##### 2.02 INSULATION MATERIALS

- A. Insulation: Polyurethane or Isocyanurate type.
- B. Thermal Conductivity; per ASTM C177:
  - 1. 0.17 'K' value when aged 90 days at 140 degrees F.
  - 2. Water vapor transmission: ASTM E96; 3.0 perm-in.
  - 3. Water vapor absorption: 3 percent by volume after 24 hrs. 100 percent RH, maximum per ASTM D2842.
  - 4. Density: ASTM D1622; minimum 2 lb/cu ft.
  - 5. Fire Hazard Class: ASTM E84; 25/450 max.

##### 2.03 INSULATION ACCESSORIES

- A. Primer: As required by insulation manufacturer.
- B. Sealant: Silicone, as specified in Section 07900.

#### PART 3 EXECUTION

##### 3.01 INSPECTION

- A. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation adhesion.
- B. Verify work within walls is complete prior to insulation application.

##### 3.02 PREPARATION

- A. Mask and protect adjacent surfaces from overspray or dusting.
- B. Apply primer in accordance with manufacturer's instructions.

3.03 INSULATION APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.
- B. Be cautious of flammability of insulation during and after installation.
- C. Apply insulation by froth or pour method.
- D. Apply insulation to a uniform monolithic density without voids.

END OF SECTION



## SECTION 07250

## WEATHER BARRIER

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Weather barrier membrane
- B. Seam Tape
- C. Flashing
- D. Fasteners

#### 1.2 REFERENCES

- A. ASTM International
  - 1. ASTM C920; Standard Specification for Elastomeric Joint Sealants
  - 2. ASTM C1193; Standard Guide for Use of Joint Sealants
  - 3. ASTM D882; Test Method for Tensile Properties of Thin Plastic Sheeting
  - 4. ASTM D1117; Standard Guide for Evaluating Non-woven Fabrics
  - 5. ASTM E84; Test Method for Surface Burning Characters of Building Materials
  - 6. ASTM E96; Test Method for Water Vapor Transmission of Materials
  - 7. ASTM E1677; Specification for Air Retarder Material or System for Framed Building Walls
  - 8. ASTM E2178; Test Method for Air Permeance of Building Materials
  - 9. ASTM E2357; Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- B. AATCC – American Association of Textile Chemists and Colorists
  - 1. Test Method 127 Water Resistance: Hydrostatic Pressure Test
- C. TAPPI
  - 1. Test Method T-410; Grams of Paper and Paperboard (Weight per Unit Area)
  - 2. Test Method T-460; Air Resistance (Gurley Hill Method)

#### 1.3 SUBMITTALS

- A. Refer to Section [01 33 00 Submittal Procedures] [insert section number and title].
- B. Product Data: Submit manufacturer current technical literature for each component.
- C. Samples: Weather Barrier Membrane, minimum 8-1/2 inches by 11 inch.
- D. Quality Assurance Submittals
  - 1. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with indicated requirements.
  - 2. Manufacturer Instructions: Provide manufacturer's written installation instructions.
  - 3. Manufacturer's Field Service Reports: Provide site reports from authorized field service representative, indicating observation of weather barrier assembly installation.

E. Closeout Submittals

1. Refer to Section [01 78 00 Closeout Submittals] [insert section number and title].
2. Weather Barrier Warranty: Manufacturer's executed warranty form with authorized signatures and endorsements indicating date of Substantial Completion.

1.4 QUALITY ASSURANCE

A. Qualifications

1. Installer shall have experience with installation of weather barrier assemblies under similar conditions.
2. Installation shall be in accordance with weather barrier manufacturer's installation guidelines and recommendations.
3. Source Limitations: Provide weather barrier and accessory materials produced by single manufacturer.

B. Mock-up

1. Install mock-up using approved weather barrier assembly including fasteners, flashing, tape and related accessories per manufacturer's current printed instructions and recommendations.
  - a. Mock-up size: 10 feet by 10 feet
  - b. Mock-up Substrate: Match wall assembly construction, including window opening.
  - c. Mock-up may remain as part of the work.
2. Contact manufacturer's designated representative prior to weather barrier assembly installation, to perform required mock-up visual inspection and analysis as required for warranty.

C. Pre-installation Meeting

1. Refer to Section [01 31 19 Project Meetings]
2. Hold a pre-installation conference, two weeks prior to start of weather barrier installation. Attendees shall include Contractor, Architect, Engineer, Consultant, Installer, Owner's Representative, and Weather Barrier Manufacturer's Designated Representative.
3. Review all related project requirements and submittals, status of substrate work and preparation, areas of potential conflict and interface, availability of weather barrier assembly materials and components, installer's training requirements, equipment, facilities and scaffolding, and coordinate methods, procedures and sequencing requirements for full and proper installation, integration and protection.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Refer to Section [01 60 00 Product Requirements] [insert section number and title].
- B. Deliver weather barrier materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Store weather barrier materials as recommended by weather barrier manufacturer.

## 1.6 SCHEDULING

- A. Review requirements for sequencing of installation of weather barrier assembly with installation of windows, doors, louvers and flashings to provide a weather-tight barrier assembly.
- B. Schedule installation of weather barrier materials and exterior cladding within nine months of weather barrier assembly installation.

## 1.7 WARRANTY

- A. Refer to Section [01 78 36 Warranties] [insert section number and title].
- B. Special Warranty
  - 1. Special weather-barrier manufacturer's warranty for weather barrier for a period of ten (10) years from date of final weather barrier installation.
  - 2. Pre-installation meetings and jobsite observations by weather barrier manufacturer for warranty is required prior to assembly installation.
  - 3. Warranty Areas: [Describe specific areas of work protected and areas of work excluded as required by project conditions].

## PART 2 – PRODUCTS

### 2.1 MANUFACTURER

- A. DuPont; 4417 Lancaster Pike, Chestnut Run Plaza 728, Wilmington, DE 19805; 1-800-44-TYVEK (8-9835); <http://www.construction.tyvek.com>

### 2.2 MATERIALS

- A. Basis of Design: spunbonded polyolefin, non-woven, non-perforated, weather barrier is based upon DuPont™ Tyvek® CommercialWrap® and related assembly components.
- B. Performance Characteristics:
  - 1. Air Penetration: 0.001 cfm/ft<sup>2</sup> at 75 Pa, when tested in accordance with ASTM E2178. Type I per ASTM E1677. ≤0.04 cfm/ft<sup>2</sup> at 75 Pa, when tested in accordance with ASTM E2357.
  - 2. Water Vapor Transmission: 28 perms, when tested in accordance with ASTM E96, Method B.
  - 3. Water Penetration Resistance: Minimum 280 cm when tested in accordance with AATCC Test Method 127.
  - 4. Basis Weight: Minimum 2.7 oz/yd<sup>2</sup>, when tested in accordance with TAPPI Test Method T-410.
  - 5. Air Resistance: Air infiltration at >1500 seconds, when tested in accordance with TAPPI Test Method T-460.

6. Tensile Strength: Minimum 38/35 lbs/in., when tested in accordance with ASTM D882, Method A.
7. Tear Resistance: 12/10 lbs., when tested in accordance with ASTM D1117.
8. Surface Burning Characteristics: Class A, when tested in accordance with ASTM E84. Flame Spread: 10, Smoke Developed: 10.

## 2.2 ACCESSORIES

- A. Seam Tape: As recommended by the weather barrier manufacturer.
- B. Fasteners:
  1. Steel Frame Construction:  
1-5/8 inch rust resistant screw with 2-inch diameter plastic cap or manufacturer approved 1-1/4" or 2" metal gasketed washer
  2. Wood Frame Construction:  
Nail Caps: #4 nails with large 1-inch plastic cap fasteners, or 1-inch plastic cap staples with leg length sufficient to achieve a minimum penetration of 5/8-inch into the wood stud.
  3. Masonry Construction:  
Masonry tap-con fasteners with Caps: 2-inch diameter plastic cap fasteners.
- C. Sealants
  1. Refer to Section 07 92 00 Joint Sealants.
- D. Adhesives:
  1. Provide adhesive recommended by weather barrier manufacturer.
  2. Products: Adhesives recommend by the weather barrier manufacturer.
- E. Primers:
  1. Provide flashing manufacturer recommended primer to assist in adhesion between substrate and flashing.
  2. Products: Primers recommended by the flashing manufacturer.
- F. Flashing
  1. Flexible membrane flashing materials for window openings and penetrations recommended by manufacturer.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Verify substrate and surface conditions are in accordance with weather barrier manufacturer recommended tolerances prior to installation of weather barrier and accessories.

### 3.2 INSTALLATION – WEATHER BARRIER

- A. Install weather barrier over exterior face of exterior wall substrate in accordance with manufacturer recommendations.
- B. Install weather barrier prior to installation of windows and doors.
- C. Start weather barrier installation at a building corner, leaving 6-12 inches of weather barrier extended beyond corner to overlap.
- D. Install weather barrier in a horizontal manner starting at the lower portion of the wall surface with subsequent layers installed in a shingling manner to overlap lower layers. Maintain weather barrier plumb and level.
- E. Sill Plate Interface: Extend lower edge of weather barrier over sill plate interface 3-6 inches.

Secure to foundation with elastomeric sealant as recommended by weather barrier manufacturer.

- F. Window and Door Openings: Extend weather barrier completely over openings.
- G. Overlap weather barrier
  - 1. Exterior corners: minimum 12 inches.
  - 2. Seams: minimum 6 inches.
- H. Weather Barrier Attachment:
  - 1. Steel or Wood Frame Construction: Attach weather barrier to studs through exterior sheathing. Secure using weather barrier manufacturer recommend fasteners, space 12-18 inches vertically on center along stud line, and 24 inch on center, maximum horizontally.
  - 2. Masonry Construction: Attach weather barrier to masonry. Secure using weather barrier manufacturer recommend fasteners, space 12-18 inches vertically on center and 24 inches maximum horizontally. Weather barrier may be temporarily attached to masonry using recommended adhesive, placed in vertical strips spaced 24 inches on center, when coordinated on the project site.
- I. Apply flashing to weather barrier membrane prior to installing cladding anchors.

### 3.3 SEAMING

- A. Seal seams of weather barrier with seam tape at all vertical and horizontal overlapping seams.
- B. Seal any tears or cuts as recommended by weather barrier manufacturer.

### 3.4 OPENING PREPARATION (for use with non-flanged windows - all cladding types)

- A. Flush cut weather barrier at edge of sheathing around full perimeter of opening.
- B. Cut a head flap at 45-degree angle in the weather barrier at window head to expose 8 inches of sheathing. Temporarily secure weather barrier flap away from sheathing with tape.

### 3.5 FLASHING (for use with non-flanged windows - all cladding types)

- A. Cut flexible flashing a minimum of 12 inches longer than width of sill rough opening.
- B. Cover horizontal sill by aligning flexible flashing edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches. Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
- C. Fan flexible flashing at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges.
- D. Apply 9-inch wide strips of flashing at jambs. Align flashing with interior edge of jamb framing. Start flashing at head of opening and lap sill flashing down to the sill.
- E. Spray-apply primer to top 6 inches of jambs and exposed sheathing.
- F. Install flexible flashing at opening head using same installation procedures used at sill. Overlap jamb flashing a minimum of 2 inches.
- G. Coordinate flashing with window installation.
- H. On exterior, install backer-rod in joint between window frame and flashed rough framing. Apply sealant at jambs and head, leaving sill unsealed. Apply sealants in accordance with sealant manufacturer's instructions and ASTM C1193.
- I. Position weather barrier head flap across head flashing. Adhere using flashing over the 45-degree seams.

- J. Tape top of window in accordance with manufacturer recommendations.
- K. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C1193.

### 3.6 OPENING PREPARATION (for use with flanged windows)

- A. Cut weather barrier in an "I-cut" pattern. A modified I-cut is also acceptable.
  - 1. Cut weather barrier horizontally along the bottom and top of the window opening.
  - 2. From the top center of the window opening, cut weather barrier vertically down to the sill.
  - 3. Fold side and bottom weather barrier flaps into window opening and fasten.
- B. Cut a head flap at 45-degree angle in the weather barrier at window head to expose 8 inches of sheathing. Temporarily secure weather barrier flap away from sheathing with tape.

### 3.7 FLASHING (for use with flanged windows)

- A. Cut flexible flashing a minimum of 12 inches longer than width of sill rough opening.
- B. Cover horizontal sill by aligning flexible flashing edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches. Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
- C. Fan flexible flashing at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges if necessary.
- D. On exterior, apply continuous bead of sealant to wall or backside of window mounting flange across jambs and head. Do not apply sealant across sill.
- E. Install window according to manufacturer's instructions.
- F. Apply strips of flashing at jambs overlapping entire mounting flange. Extend jamb flashing 1-inch above top of rough opening and below bottom edge of sill flashing.
- G. Apply strip of flashing as head flashing overlapping the mounting flange. Head flashing should extend beyond outside edges of both jamb flashings.
- H. Position weather barrier head flap across head flashing. Adhere flashing over the 45-degree seams.
- I. Tape head flap in accordance with manufacturer recommendations.
- J. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C 1193.

### 3.8 THRU-WALL FLASHING INSTALLATION

- A. Apply primer per manufacturer's written instructions.
- B. Install preformed corners and end dams bedded in sealant in appropriate locations along wall.
- C. Starting at a corner, remove release sheet and apply membrane to primed surfaces in lengths of 8 to 10 feet.

- D. Extend membrane through wall and leave ¼ inch minimum exposed to form drip edge.
- E. Roll flashing into place. Ensure continuous and direct contact with substrate.
- F. Lap ends and overlap preformed corners 4 inches minimum. Seal all laps with sealant.

### 3.9 THRU-WALL FLASHING / WEATHER BARRIER INTERFACE AT BASE OF WALL

- A. Overlap thru-wall flashing with weather barrier by 6-inches.
- B. Mechanically fasten bottom of weather barrier through top of thru-wall flashing.
- C. Seal vertical and horizontal seams with tape or sealing membrane.

### 3.10 THRU-WALL FLASHING / WEATHER BARRIER INTERFACE AT SHELF ANGLE

- A. Seal weather barrier to bottom of shelf angle with sealing membrane.
- B. Apply thru-wall flashing to top of shelf angle. Overlap thru-wall flashing with weather barrier by 6-inches.
- C. Seal bottom of weather barrier to thru-wall flashing with tape or sealing membrane.

### 3.11 THRU-WALL FLASHING / WEATHER BARRIER INTERFACE AT WINDOW HEAD

- A. Cut flap in weather barrier at window head.
- B. Prime exposed sheathing.
- C. Install lintel as required. Verify end dams extend 4 inches minimum beyond opening.
- D. Install end dams bedded in sealant.
- E. Adhere 2 inches minimum thru-wall flashing to wall sheathing. Overlap lintel with thru-wall flashing and extend ¼ inch minimum beyond outside edge of lintel to form drip edge.
- F. Apply sealant along thru-wall flashing edges.
- G. Fold weather barrier flap back into place and tape bottom edge to thru-wall flashing.
- H. Tape diagonal cuts of weather barrier.
- I. Secure weather barrier flap with fasteners.

### 3.8 FIELD QUALITY CONTROL

- A. Notify manufacturer's designated representative to obtain [required] periodic observations of weather barrier assembly installation.

### 3.9 PROTECTION

- A. Protect installed weather barrier from damage.

END OF SECTION



## SECTION 07423

## METAL WALL PANELS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes: Metal lap-seam wall panels with exposed fasteners and metal soffit panels, including trim and accessories.

B. Related Sections: Section(s) related to this section include:

1. Sealants: Section 07900

#### 1.2 REFERENCES

A. General: Standards listed by reference form a part of this specification section. Standards listed are identified by issuing authority, abbreviation, designation number, title or other designation. Standards subsequently referenced in this Section are referred to by issuing authority abbreviation and standard designation.

B. ASTM International:

1. ASTM A 653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM A 792 – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
3. ASTM A 1011 – Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
4. ASTM D 2244 – Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
5. ASTM D 4214 – Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
6. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

C. Underwriters Laboratories (UL):

1. UL 263 - Fire Tests of Building Construction and Materials.

D. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): "Architectural Sheet Metal Manual."

#### 1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meetings: Conduct preinstallation meeting to clarify Project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements.

#### 1.4 ACTION SUBMITTALS

A. Product Technical Data: For each type of product required, including manufacturer's preparation recommendations, storage and handling requirements, and recommended installation methods.

B. Shop Drawings: Showing methods of installation, plans, sections, elevations and details of wall panels, specified loads, flashings, vents, sealants, interfaces with all materials not supplied by the metal panel system manufacturer, and identification of proposed component parts and their finishes. Do not proceed with fabrication prior to approval of shop drawings.

C. Samples: Selection and verification samples for finishes, colors and textures. Submit two complete sample sets of each type of panel, trim, clip and fastener required.

D. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics, criteria and physical requirements.

E. Test and Evaluation Reports: Showing compliance with specified performance characteristics and physical properties.

F. Qualifications Statements: For manufacturer and installer.

#### 1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For installed products including maintenance methods and precautions against cleaning materials and methods detrimental to finishes and performance.

B. Warranty: Warranty documents required in this section.

#### 1.6 MAINTENANCE MATERIAL

A. Extra Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 01 Closeout Submittals Section.

#### 1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Provider of advanced installer training.
2. Minimum of ten years of experience in manufacturing metal wall panel systems.
3. Provider of products produced in a permanent factory environment with fixed roll-forming equipment.

B. Installer Qualifications:

1. At least five years of experience in the installation of metal wall panels.
2. Experience on at least five projects of similar size, type and complexity as this Project that have been in service for a minimum of two years with satisfactory performance of the wall panel system.
3. Employer of workers for this Project who are competent in techniques required by manufacturer for installation indicated and who shall be supervised at all times when material is being installed.

D. Preinstallation Conference: Conduct a preinstallation conference

## 1.8 DELIVERY, STORAGE AND HANDLING

- A. General: Comply with manufacturer's current printed product storage recommendations.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage: Store materials above ground, under waterproof covering, protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer. Provide proper ventilation of metal panel system to prevent condensation build-up between each panel and trim or flashing component. Tilt stack to drain in wet conditions. Remove strippable plastic film before storage under high-heat conditions. Store products in manufacturer's unopened packaging until just prior to installation.
- D. Handling: Exercise caution in unloading and handling metal panel system to prevent bending, warping, twisting and surface damage.

## 1.9 WARRANTY

A. Special Exposed Panel Finish Warranty: Manufacturer's standard form PVDF Fluorocarbon System Warranty for film integrity, chalk rating and fade rating in which manufacturer agrees to repair or replace panels that show evidence of deterioration within specified warranty period.

1. Deterioration shall include but is not limited to:

- a. Color fading of 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. Warranty Period: Film integrity for 45 years and chalk and fade rating for 35 years from date of Substantial Completion.

3. Manufacturer's warranty may exclude surface deterioration due to physical damage and exposure to salt air environments.

## PART 2 PRODUCTS

### 2.1 METAL WALL PANELS

A. Basis of Design Product: Subject to compliance with requirements provide Metal Sales Manufacturing Corporation; Exposed Fastened Series **TL-20** (Vertical Metal Panel) and **7/8" Corrugated** (Horizontal Metal Panel)

B. Substitution Limitations: Under the provisions of Section 01630.

C. Product Options:

**Vertical Metal Panel: TL-20**

- 1. Panel coverage: 16 inches.
- 2. Rib Height: 2 inches.
- 3. Material: Aluminum-zinc alloy-coated steel sheet, ASTM A 792, **G90** coating designation, structural quality, 22 GA. minimum thickness.

4. Attachment: Exposed direct fastened panel, per manufacturer recommendations.
5. Application: Designed for application over open framing or solid substrate.
6. Surface Finish: PVDF (Kynar 500)
7. Color: Manufacturers standard colors per Architect.
8. Fire Resistance Rating: Comply with UL 263 and UL 790 Class A Fire Resistance Ratings.

**Horizontal Metal Panel: 7/8" Corrugated**

1. Panel coverage: 34-2/3 inches.
2. Rib Height: 7/8 inches.
3. Material: Aluminum-zinc alloy-coated steel sheet, ASTM A 792, **G90** coating designation, structural quality, 22 GA. minimum thickness.
4. Attachment: Exposed direct fastened panel, per manufacturer recommendations.
5. Application: Designed for application over open framing or solid substrate.
6. Surface Finish: PVDF (Kynar 500)
7. Color: Manufacturers standard colors per Architect.
8. Fire Resistance Rating: Comply with UL 263 and UL 790 Class A Fire Resistance Ratings.

## 2.2 SOURCE QUALITY CONTROL

- A. Source: Obtain metal wall panels, trim and other accessories from a single manufacturer.
- B. Quality Control: Obtain metal wall panels, trim and other accessories from a manufacturer capable of providing on-site technical support and installation assistance.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Miscellaneous Framing: Install furring, angles, subpurlins, and other miscellaneous wall panel support members and anchorage according to metal wall panel manufacturer's recommendations.

### 3.2 METAL WALL PANEL INSTALLATION

- A. General: Comply with panel manufacturer's installation instructions including but not limited to special techniques, interface with other work, and integration of systems.
- B. Fasten metal wall panels to supports with concealed clips at each standing-seam joint at location, spacing, and using proper fasteners as recommended by panel manufacturer.

### 3.3 ACCESSORY INSTALLATION

- A. General: Install accessories using techniques recommended by manufacturer and which will assure positive anchorage to building and weather tight mounting. Provide for thermal movement. Coordinate installation with flashings and other components.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and the SMACNA "Architectural Sheet Metal Manual." Provide concealed fasteners where

possible, and install units to true level. Install work with laps, joints, and seams that will be permanently watertight.

### 3.4 CLEANING

- A. Remove temporary coverings and protection of adjacent work areas.
- B. Repair or replace any installed products that have been damaged.
- C. Clean installed panels in accordance with manufacturer's instructions prior to Owner's acceptance.
- D. Remove and lawfully dispose of construction debris from Project site.

### 3.8 PROTECTION

- A. Protect installed product and finish surfaces from damage during construction.

END OF SECTION 07423



SECTION 07620 FLASHING AND TRIM

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Roof copings, reglets and counterflashings.
2. Exterior door drip flashings.
3. Miscellaneous flashings.

B. Related Work Specified Elsewhere:

- |                           |               |
|---------------------------|---------------|
| 1. Concrete Masonry Units | Section 04230 |
| 2. Joint Sealers          | Section 07900 |
| 3. Steel Doors and Frames | Section 08111 |
| 4. Painting               | Section 09900 |

C. References:

1. American Society for Testing and Materials (ASTM):
  - a. A525-86 Steel Sheet, Zinc Coated, Galvanized by the Hot Dip Process.
  - b. B32-87 Solder Metal
  - c. D226-87 Asphalt Saturated Organic Felt Used in Roofing and Waterproofing.
  - d. D1187-82 Asphalt Based Emulsions for Use as Protective Coatings for Metal.
2. Federal Specifications (FS): O-F-506 Flux, Soldering, Paste and Liquid.
3. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): SMACNA Architectural Sheet Metal Manual.

1.02 SYSTEM DESCRIPTION

- A. Work of this Section is to physically protect composition or flexible roof flashing and building components from damage that would permit water leakage to building interior.

1.03 QUALITY ASSURANCE

- A. Applicator: Company specializing in sheet metal flashing work with 3 years minimum experience.

1.04 SUBMITTALS

- A. Submit shop drawings, product data, installation instructions, color sample, and samples under provisions of Section 01340.
- B. Describe material profile, jointing pattern, jointing details, fastening methods, and installation details.
- C. Provide 12 in. length of full sized sample of metal flashings illustrating typical external corner, internal corner, junction to vertical dissimilar surface, material and finish.

## 1.05 STORAGE AND HANDLING

- A. Store products under provisions of Section 01620.
- B. Stack preformed and prefinished material to prevent twisting, bending, or abrasion, and to provide ventilation.
- C. Prevent contact with materials during storage which may cause discoloration, staining or damage.

## 1.06 PERFORMANCE AGREEMENT

- A. Provide two year guaranty under provisions of Section 01750, substantially in the following form:
  - 1. Inspect and make emergency repairs to defects and leaks in building flashings within 24 hours of notice by Owner. As soon as weather permits, make permanent repairs and restore effected area to standards of contract requirements. Work shall be done without additional cost to Owner, unless leaks were caused by abuse or unusual natural phenomena as lightning strikes or hurricane.
- B. Provide 20 year manufacturer's finish warranty for prefinished items under provision of Section 01750.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Galvanized Sheet Stock: ASTM A446, Grade C minimum; coating designation G90 in conformance with A525, or 1.9 mil Zinalume coating composed of 45 percent zinc and 55 percent aluminum alloy by weight, per ASTM A792.
- B. Counterflashings:
  - 1. Manufactured: Provide counterflashings similar and equal to Springlok Flashing System as manufactured by Fry Reglet Corp. Flashing shall be made of 26 ga. galvanized steel. Pre-finish where exposed to view from exterior grade and elsewhere as indicated. Flashing shall have a 3 in. factory formed end lap. Provide with prefabricated flashing corners and accessories.
  - 2. Fabricated: Provide counterflashings of galvanized steel as indicated, thickness shown. Pre-finish where exposed to view from exterior grade and elsewhere as indicated. Fabricate as specified below, to shapes shown and as required to maintain building watertight and weatherproof.
- C. Copings: Provide copings of preformed, galvanized sheet stock as indicated, thickness shown. Fabricate as specified below, to shapes shown and as required to maintain building watertight and weatherproof.

### 2.02 ACCESSORIES

- A. Fastener: Galvanized steel with soft neoprene washers at exposed fasteners. Finish exposed fasteners same as flashing metal.

- B. Underlayment: ASTM D266; No. 15 asphalt saturated roofing felt.
- C. Metal Primer: FS TT-P-641.
- D. Protective Backing Paint: Bituminous, conforming to ASTM D1187, Type A.
- E. Sealant: Refer to Section 07900.
- F. Solder: ASTM B32; 50/50 type.
- G. Flux: FS O-F-506.

### 2.03 FABRICATION

- A. Form section true to shape, accurate in size, square, and free from distortion or deflects.
- B. Form pieces in longest practicable lengths. Minimum bend radius 2.5 times the thickness of the metal, unless more stringent requirements are specified by coating manufacturer. Form bends at room temperature.
- C. Hem exposed edges on underside 1/2 in.; miter and rivet lap seam corners. Provide sealant in laps as specified in Section 07900.
- D. Form material with cover plate seams.
- E. Fabricate vertical faces with bottom edge formed outward 1/4 in. and hemmed to form drip.
- F. Provide 24 gauge coping with 22 gauge continuous concealed cleats on exterior face and exposed screw fasteners on interior face, as shown.

### 2.04 FINISH

- A. Shop prepare and prime exposed ferrous metal surfaces, including galvanized.
- B. Backpaint concealed ferrous metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.
- C. Exposed flashings at sloped glazing to match sloped glazing framing color.
- D. Exposed flashings at louvers to match louver color.
- E. Prefinishing of Sheet Stock:
  - 1. Exterior surfaces of prefinished flashings shall have a shop applied baked-on epoxy primer (.2 mil) and a baked-on PVF 2 (Polyvinylidene Flouride) finish coat (.8 mil) equal to Glidden "Nubelar", DeSoto "Fluropon", Whittaker "Fluoroceram" and PPG "Duramar"; full 70% Kynar 500, totaling a nominal 1.0 mil dry film thickness.
  - 2. Interior finish consists of .15 mil epoxy primer and .35 mil off-white backer, except match exterior surface finish where exposed.

- G. Touch Up Finishes: Touch up finish or refinish hardware items and small scratches and abrasions on prefinished metal with an air dry fluorocarbon refinishing system or touch up system, similar and equal to ADS Kynar.
- H. Back paint concealed metal surfaces and dissimilar metal contact surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

### PART 3 EXECUTION

#### 3.01 INSPECTION

- A. Beginning of installation means installer accepts existing substrates.

#### 3.02 PREPARATION

- A. Field measure site conditions prior to fabricating work.

#### 3.03 INSTALLATION

- A. Install surface mounted reglets and accessories true to lines and levels, at wall/roof connections above top of base flashings.
  - 1. Seal top of reglet as specified in Section 07900 and in accordance with reglet manufacturer's recommendations.
  - 2. Place beads of sealant under holes. Prefinish reinforcing bars to match flashing. Anchor bars to substrate through flashing with round head bolts with neoprene washers into sleeve anchors, of metal compatible with flashing and with heads prefinished color to match flashing.
- B. Secure flashings in place using concealed fasteners unless exposed specifically shown. Fastener size and type suitable for conditions of use. Provide sizes and spacings shown, and where not shown, provide in accordance with applicable requirements of SMACNA manual and FM 1-49 for Wind Zone 2 whichever is the more stringent for the application.
- C. Provide butt joints between coping lengths with minimum 22 ga. cover plates and seal between cover plates and coping with two beads of polyisobutylene sealant each side (four rows of sealant total for each covered joint). Allow for expected expansion and contraction between coping lengths.
- D. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- E. Seal metal joints watertight. Apply sealant between metal flashings as specified in Section 07900.
- F. Conform to drawing details included in SMACNA manual where referenced or where applicable to conditions and not in conflict with Contract Documents.

END OF SECTION

SECTION 07900 JOINT SEALANTS

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Clean and prepare sealant substrate surfaces.
2. Sealant and backing.

B. Related Work Described Elsewhere:

- |    |                         |               |
|----|-------------------------|---------------|
| 1. | Cast-In-Place Concrete  | Section 03300 |
| 2. | Concrete Masonry Unit   | Section 04230 |
| 3. | Vapor Retarders         | Section 07190 |
| 4. | Flashing and Metal Trim | Section 07620 |
| 5. | Steel Doors and Frames  | Section 08111 |
| 6. | Aluminum Windows        | Section 08520 |
| 7. | Glazing                 | Section 08800 |
| 8. | Gypsum Wallboard        | Section 09250 |
| 9. | Acoustical Ceilings     | Section 09511 |

C. References:

1. American Society for Testing and Materials (ASTM) :
  - a) C790-84 Recommended Practices for Use of Latex Sealing Compounds.
  - b) C804-83 Recommended Practices for Use of Solvent Release Type Sealants.
  - c) D1056-85 Flexible Cellular Materials - Sponge or Expanded Rubber.
  - d) D1565-81 (1986) Flexible Cellular Materials - Vinyl Chloride polymers and Copolymers (Open Cell Foam).
  - e) E119-83 Fire Tests of Building Construction Materials.
2. Federal Specifications (FS):
  - a) TT-S-001543 Sealing Compound, Silicone Rubber Base.
  - b) TT-S-001657 Sealing Compound, Single Component, Butyl Rubber Based, Solvent Release Type.
  - c) TT-S-00227 Sealing Compound: Elastomeric Type , Multi-Component.
  - d) TT-S-00230 Sealing Compound: Elastomeric Type, Single-Component.

1.02 SUBMITTALS

- A. Submit product data and samples under provision of Section 01340.
- B. Submit product data and samples of each sealant type and sealant colors.

- C. Submit manufacturer's surface preparation and installation instructions under provisions of Section 01340.

### 1.03 EXTRA STOCK

- A. Furnish tube or equivalent of each type of sealant used on this project under provisions of Section 01750.
- B. Turn over to Owner's Representative at Substantial Completion and receive a receipt therefore.

## PART 2 PRODUCTS

### 2.01 SEALANT MATERIALS

- A. Silicone Sealant: Silicone base, single component, moisture curing, non-sagging, non-staining, non-bleeding; color as selected; conforming to the requirements of FS TT-S-001543A, Class A. Dow Corning 795 Sealant, GE Gesil N 2600, or Tremco Spectrum 2.
  - 1. Dynamic Movement Capability  $\pm$  50 percent.
  - 2. Service Temperature Range -35 to +140 degrees F.
  - 3. Shore A Hardness Range 15 to 35.
- B. Polyurethane Sealant: Moisture curing, non-staining, non-bleeding, capable of continuous water immersion, non-sagging type; conforming to the requirements of FS TT-S-00230C, Type 11, Class A. Sonneborn Sonolastic NP II, Tremco Dymeric. Color as selected.
  - 1. Dynamic Movement Capability  $\pm$  25 percent.
  - 2. Service Temperature Range -60 to +180 degrees F.
  - 3. Shore A Hardness 20 to 35.
- C. Butyl Sealant: Butyl rubber base, single component, conforming to requirements of FS TT-S-001657, Type 1; Shore A hardness of maximum 30; non-staining; non-bleeding; non-sagging; color as selected. Tremco Butyl Sealant, Pecora BC-158, or Sonneborn Butakauk.
- D. Acrylic Sealant: Acrylic base, single component, solvent curing, capable of being continuously immersed in water, withstand movement of up to 7.5 percent of joint width and paintable. Tremco Acrylic Latex Caulk or Sonneborn Sonolac.
- E. Accoustical Sealant: Conforming to ASTM C-919, Smoke & Sound Sealant. Tremco – Tremflex 834.
- F. Sealant Tape: AAMA 804.1, Butyl-polyisobutylene preformed sealant, service temperature range -40 to 200 degrees F; color as selected; Tremco 440 tape, PTI 606, or acceptable substitute. Provide pre-shimmed where required.

K+A designstudios, P.C.

- G. Penetration Sealant: Conform to requirements of ASTM E119 or ASTM E 814; provide materials UL Listed with assembly and for equal rating. Seal walls and floors at pipe, conduit and cable penetrations. Where required for rating, provide with mineral wool or ceramic fiber forming material listed. Dow Corning 2000 Fire Stop Sealant, GS Pensil 851, or equal.
- H. Sanitary Sealant: Dow Corning 786 mildew resistant silicone sealant or GE SCS 1702 Sanitary Sealant. Seal joints around plumbing fixtures.
- I. Rated Joint Sealant: Conform to requirements of ASTM E119 or UL 263; provide material UL listed with assembly and for equal rating. Seal walls at control joints in 2 hour CMU or concrete walls. Where required for rating, provide with mineral wool or ceramic fiber forming material listed. Dow Corning 795, Tremco Dymeric, or equal.
- J. Traffic Sealant: Two component, self-leveling type; conforming to the requirements of FS TT-S-00227E, Type I, Class A and ASTM C920 Type S, Grade P, Class 25, Use T; Sonneborn Sonolastic Paving Joint Sealant, Tremco THC-900, "Chem-Calk 550" by Bostik, or equal. Color as selected.
- K. Substitutions: Refer to Section 01630 for substitution procedures.

## 2.02 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Filler (Backer Rod): Round, open cell polyurethane foam rod; oversized 30 to 50 percent larger than joint width; compatible with joint sealer.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

## PART 3 EXECUTION

### 3.01 JOB CONDITIONS

- A. Verify joint openings are ready to receive work and field measurements are as shown on Drawings and recommended by manufacturer.
- B. Beginning of installation means installer accepts existing substrate.

### 3.02 PREPARATION

- A. Clean, prepare, and size joints in accordance with manufacturer's instructions. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Verify that joint shaping materials and release tapes are compatible with sealant.
- C. Examine joint dimensions and size materials to achieve required width/depth ratios.
- D. Use joint filler to achieve required joint width/depth ratios. Provide neck dimension no greater than 1/3 joint width. Verify that joint backing and release tapes are compatible with sealant. Do not puncture backer rod.

K+A designstudios, P.C.

---

- E. Use bond breaker where joint backing is not used.
- F. Perform preparation in accordance with ASTM C804 for solvent release and C790 for latex base sealants as applicable.
- G. Protect elements surrounding the work of this Section from damage or disfiguration.

### 3.03 INSTALLATION

- A. Perform work in accordance with ASTM C804 for solvent release and C790 for latex base sealants as applicable.
- B. Install sealant per manufacturer's instructions.
- C. Apply sealant within recommended temperature ranges. Consult manufacturer when sealant cannot be applied within recommended temperature ranges.
- D. Tool joints concave.
- E. Joint: Free of air pockets, foreign embedded matter, ridges, and sags.

### 3.04 CLEANING AND REPAIRING

- A. Clean work under provisions of Section 01710.
- B. Clean adjacent soiled surfaces.
- C. Repair or replace defaced or disfigured finishes caused by work of this Section.

### 3.05 PROTECTION OF FINISHED WORK

- A. Protect finished installation under provisions of Section 01500.
- B. Protect sealants until cured.

3.06 SCHEDULE

<u>Location:</u>	<u>Type:</u>
A. Concrete Masonry	
Exterior Control Joints	Polyurethane
Exterior Penetrations	Polyurethane
Interior Control Joints	Rated Joint Sealant
B. Vapor Retarder (Reference Section 07190)	
Floor/Roof	Acrylic
Penetrations	Acrylic
C. Flashing and Metal Trim (Ref. Section 07620)	
Metal/Metal (concealed)	Sealant Tape
Metal/Metal (exposed)	Polyurethane
Metal/CMU	Polyurethane
D. Windows (Ref. Sections 08520)	
Cap Glazing Bead	Silicone Weather Seal
Heel Glazing Bead	Silicone Structural Sealant
Metal/Metal Flashing lap Joints (concealed)	Tape Sealant
Exterior Perimeter/Metal (exposed)	Polyurethane
Exterior Perimeter/CUM (exposed)	Polyurethane
Sill/Flashing (concealed)	Butyl
Wood/Wood (exposed)	Polyurethane
Structural Glazing	Silicone
Interior Perimeter/Metal (exposed)	Acrylic
E. Door and Relite Frames	
Interior Door and Relite Frames/Walls	Acrylic
Exterior Door and Relite Frames/CMU	Polyurethane
Interior Door and Relite Glazing	Tape Sealant (pre-shimmed)
Exterior Door and Relite Glazing	Tape Sealant (pre-shimmed)
Threshold	Butyl
F. Tile	
Fixtures, Fittings and Equipment/Substrate	Sanitary Sealant
Accessories and Partitions/Substrate	Sanitary Sealant
Control/Expansion Joints	Polyurethane
Top of Base at Kitchen	Sanitary Sealant
G. Penetrations	
Cable, Pipe, & Utility/Rated Floor/Wall	Penetration Sealant
Voids Between Rated Wall/Roof Sheathing	Penetration Sealant
In Acoustical Walls and Ceilings	Acrylic
H. P. Lam/Gypsum Board	Acrylic

- I. Horizontal Interior Traffic Joints Traffic Sealant
- J. Provide sealants for other joints between material, assemblies, and components not scheduled above as specified in individual Sections. Where not indicated above or called out in individual Sections, provide acceptable sealant best suited to application.

END OF SECTION

SECTION 08520 ALUMINUM WINDOWS

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Extruded aluminum windows with fixed and operating sash.
2. Glass and glazing
3. Operating hardware
4. Screens
5. Installation of perimeter sealant.

B. Related Work Described Elsewhere:

- |                    |               |
|--------------------|---------------|
| 1. Vapor Retarders | Section 07190 |
| 2. Joint Sealers   | Section 07900 |
| 3. Glazing         | Section 08800 |

C. References:

1. American Society for Testing and Materials (ASTM):
  - a. A36-84a Structural Steel
  - b. A167-86 Stainless and Heat Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
  - c. A123-84 Zinc (Hot Dip Galvanized Coatings) on Iron and Steel Products.
  - d. A283-85 Low and Intermediate Strength Carbon Steel Plates, Shapes, and Bars.
  - e. B136-84 Stain Resistance of Anodic Coatings on Aluminum.
  - f. B137-45 (1979) Weight of Coating on Anodically Coated Aluminum.
  - g. B209-86 Aluminum and Aluminum Alloy Sheet and Plate.
  - h. B221-85a Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
  - i. B244-79 Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments.
  - j. C236-87 Steady State Thermal Performance of Building Assemblies by means of a Guarded Hot Box.
  - k. G23-81 Operating Light - and Water Exposure Apparatus (Carbon-Arc Type) for Exposure of Nonmetallic Materials.
  - l. E283-84 Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors.
  - m. E330-84 Structural Performance of Exterior Window, Curtain Wall, and Doors by Uniform Static Air Pressure Difference.
  - n. E331-86 Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

B. American National Standards Institute (ANSI): A117.1 Specifications for Making Building Accessible to and Usable by Physically Handicapped People

C. Architectural Aluminum Manufacturers Association (AAMA): 1502 Voluntary Test Method for Condensation Resistance of Windows, Doors, and Glazed Wall Sections.

## 1.02 QUALITY ASSURANCE

- A. Award aluminum window work to a single firm specializing in this type of work for undivided responsibility.
- B. Manufacturers must have been regularly engaged in the manufacture of like work for a period of not less than 5 years.

## 1.03 SUBMITTALS

- A. Submittals shall comply with Section 01340.,
- B. Shop Drawings: Show typical details of all conditions for every member, joint, anchorage, and glazing system.
- C. Submit samples for finish and color required on specified alloy, temper, extrusion or 12 in. square sheet or plate, showing the maximum range or variation in color and shade. Sample submittal and review will be for color, texture, and reflectivity. Compliance with all other requirements is the exclusive responsibility of the Contractor.
- D. Manufacturer's Data:
  - 1. Submit manufacturer's, finisher's and fabricator's specifications, instructions, and installation instructions for each item or component part, and completely fabricated aluminum units.
  - 2. Include certificate copies of laboratory test reports for the sealing (ASTM B136), weight of coating (ASTM B137), thickness of coating (ASTM B224), and resistance to weathering (ASTM E42) of anodized finishes.
  - 3. Include copies of manufacturer's and fabricator's certifications and other data required to show compliance with Contract Documents.
- E. Warranty:
  - 1. General: Submit written guarantee for a period of 5 years at no additional cost to the Owner. State in guarantee that the Contractor agrees to repair or replace any part of the work, and to correct leaks or other defects in material or workmanship during the guarantee period. Guarantee signed by the Contractor and the single firm awarded the Work of this Section.
  - 2. Anodized Coatings: Submit written guarantee for a period of 5 years signed by the Manufacturer, by the single firm awarded the Work of this Section, and by the Contractor, guaranteeing that the anodized aluminum will not develop excessive fading or excessive nonuniformity of color or shade and will not crack, peel, pit, or corrode; all within limits defined as follow:
    - i. Excessive Fading: means that change in color does not exceed 10 percent or a value of 4, whichever is greater, above or below the original limits of acceptable color range as color is expressed in units of color measurement (Delta E) derived by photoelectric tristimulus colorimetry as described by Circular C-429 of the National Bureau of Standards.
    - ii. Excessive Nonuniformity: means nonuniform fading to the extent that adjacent panels have a color difference greater than the original acceptable range of color expressed in the same system of color measurement described above.

- iii. Will Not Pit or Otherwise Corrode: means no pitting or other type of corrosion discernible from a distance of 10 feet, resulting from the natural elements in the atmosphere at the Project Site.

#### 1.04 PRODUCT HANDLING

- A. Comply with Section 01610 and 01620. Deliver fabricated units and/or component parts to project site completely identified on accordance with shop drawings.
- B. Store in accordance with manufacturer's instructions, properly protected from the weather and construction activities.

#### 1.05 PERFORMANCE

- A. Window components to provide for expansion and contraction caused by a cycling temperature range of 170 F degrees without causing detrimental effects to components.
- B. Design and size members to withstand dead loads and live loads caused by pressure and suction of wind to a design pressure of 62.3 lb/sq ft within 10 ft. of building corners and 37 lb/sq ft and a suction of 32 lb/sq ft elsewhere, as measured in accordance with ASTM E330 for minimum 10 seconds each.
- C. Limit mullion deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.
- D. Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior.
- E. Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of assembly surface area, measured at a reference differential pressure across assembly of 0.3 in. water gage as measured in accordance with ASTM E283, with max. 0.3 cfm per linear foot at 6.24 psf.
- F. Water Penetration test per ASTM E331 with no water penetration in 15 min. test with 5 ga./hr./sq. ft. at 8.99 psi differential pressure.
- G. Thermal performance test per ASTM C236 and AAMA 1502.6 with a condensation resistance factor of 50 and max. U-value of 0.68.
  1. U-values or R-values for windows shall be certified by laboratory thermal performance tests. Testing shall be conducted by independent certified testing laboratories using AAMA 1503.1-1980 test procedure of ASTM C-236 or C-972 test procedures, provided a 15 mile per hour wind is applied perpendicular to the exterior window surface during testing.
  2. ASHRAE- calculated R-values are not acceptable.
  3. Window units used for testing shall be random sized and randomly pulled from standard production runs. No additional adjustments shall be made to these window units than would normally be made in the field.
  4. Test reports shall be valid for a period not to exceed two years.
  5. U-values for products installed shall be equal to or better than those tested.
  6. Test reports shall be submitted to applicable building officials upon request.

## 1.06 CORRECTION OF WORK

- A. Any work under this Section found defective in materials or workmanship shall be corrected in accord with the following provisions:
1. If, within five years after the Date of Substantial Completion, 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 written notice from the Owner to do so.
  2. The Owner shall give such notice promptly after discovery of the condition. If exploratory work is required to determine cause of defects, cost of this work shall be borne by the contractor only in case, and in proportion to the extend that, his work is found to be at fault.
  3. Contractor shall be responsible for continuing corrections to defective work beyond the five year guarantee period of initial corrective measures were executed per the requirements as noted above but later found to be inadequate and not acceptable after the specific five year guarantee period.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. General: All operable windows shall be out-swing casement windows. Following products are for general reference only and are subject to compliance with specified requirements.
- |            |         |         |
|------------|---------|---------|
| B. Fentron | Series: | 2000TB  |
| C. Hope    | Series: | 210T    |
| D. Herzog  | Series: | 4000TB  |
| E. Cronco  | Series: | 200T    |
| F. Kawneer | Series: | 8225T-L |
| G. DeSCo   | Series: | 2500    |
- H. Substitutions: Under provisions of Section 01630.

### 2.02 MATERIALS

- A. Extruded Aluminum: ASTM B221; alloy and temper recommended by manufacturer or fabricator to develop required strength of assembly.
1. Aluminum Angles, Plates, Bars, and Other Aluminum Members, required to join or reinforce assembly of aluminum components.
  2. Weathering and miscellaneous members minimum 1/8 in. thick. Tubular cross members minimum 3/32 in. thick. Minor members such as stops, caps and drips, minimum .063 in. thick.
  3. Provide casement type operating sash where shown, all double weather stripped.
- B. Sheet Aluminum: ASTM B209; alloy, temper recommended by manufacturer or fabricator to develop required strength of assembly.
- C. Steel Channels Angles, Plates, Bars, Rods, and Other Steel Accessories, required to join or reinforce assembly of aluminum components: ASTM A36 and ASTM A283, galvanized or, if galvanized is not compatible with alloy of component parts, shop painted with zinc chromate primer after cutting to size.
- D. Touch-Up Primer for Galvanized Surfaces: Similar and equal to Zincilate ZRC Coating.

- E. Protective Coating: As recommended by the aluminum manufacturer, varnish and other fluid applied not permitted.
- F. Bituminous Paint: Super Service Black; Koppers Co., Inc. or equal.
- G. Insect Screens: Wicket type extruded aluminum frames, rigidly joined at corners. Screen cloth shall be 18 x 16 mesh aluminum, cleaned thoroughly to provide uniform color. Finish of screen frames to match aluminum windows. Screens shall be re-wireable.

## 2.03 FABRICATED COMPONENTS

- A. Frames: Manufacturer's standard profile to meet performance requirements specified, thermally broken with interior portion of frame insulated from exterior, inside applied glass stops of snap-on type.
  - 1. Provide frames, sash, muntins and mullions in shape, size and depth shown. Suitable alloy for extruding with adequate structural characteristics, temper and alloy compatible with finish specified.
  - 2. Drawings indicate desired profile, dimension, and extent of aluminum members and delineate the scope of the work. Profile adjustments in the interest of economy, fabrication, erection, weatherability or ability to satisfy the performance requirements may be made after written approval, provided general design and intent of Contract Documents are maintained.
- B. Sills: .090 in. thick, brake formed aluminum; sloped for positive wash; slope depth for under sash leg to 1/2 in. beyond wall face; one piece full width of opening; jamb angles to terminate sill length. Provide anodized finish after fabrication.
- C. Operable Sash Weatherstripping: Resilient PVC; permanently resilient, profiled to effect weatherseal. Provide each operable sash with an insect screen.
- D. Operable Sash Hardware: Corrosion resistant; nylon pivot bearings; extruded aluminum friction hinges with positive position stop, and two cam-action casement handles per operator. Operating windows shall meet or exceed the requirements of ANSI A117.1
- E. Fasteners: Stainless steel type 300 series with nylon type locking device. Where exposed in finished surfaces, use oval-head counter-sunk phillips heads with head diameter one screw size smaller than the shank diameter and color to match adjacent surfaces.

## 2.04 GLASS AND GLAZING MATERIALS

- A. Glass and Glazing Materials: Specified in Section 08800, except that glazing gaskets shall be manufacturer's standard materials for performance indicated.
- B. Glass: Type A glass.

## 2.05 FABRICATION

- A. Fabricate windows allowing for minimum clearances and shim spacing around perimeter of assembly, yet enabling installation.

- B. Rigidly fit and weld joints and corners. Accurately fit and secure corners tight. Make corner joints flush, hairline, and weatherproof. Seal corner joints with sealant.
- C. Weld with electrodes and by methods recommended by manufacturer of material being welded, and in accordance with appropriate recommendations of the AWS. Use only methods which will avoid distortion or discoloration of exposed faces. Grind exposed welds smooth, using clean wheels and compounds free of iron or iron compounds and restore mechanical finish condition of component parts after welding and grinding before proceeding with other treatment.
- D. Solder and braze only to fill or seal joints (not to form structural joints), and in accordance with component part manufacturer's recommendations. Grind smooth and restore finish.
- E. Develop drainage holes with moisture pattern to exterior.
- F. Prepare components to receive anchor devices. Fabricate anchorage items.
- G. Prepare components with internal reinforcement for operating hardware.
- H. Provide internal reinforcement in mullions with galvanized or stainless steel members to maintain rigidity.
- I. Complete welding, cutting, drilling, and fitting of joints prior to chemical treatment, anodication and the application of other coatings.
- J. Conceal all fastenings unless otherwise shown or specified.
- K. Reinforce members and joints with steel shapes, bars, rods, or angles for rigidity and strength as needed to fulfill performance requirements. Use concealed stainless steel fasteners for jointing which cannot be welded.
- L. Separate unlike metals or alloys with a heavy coating of bituminous paint or other suitable permanent separation as required to prevent galvanic action.

## 2.06 FINISHES

- A. Exterior and Interior Exposed Aluminum Surfaces: Dark Bronze.
- B. Concealed Steel Items: Galvanized in accordance with ASTM A123.
- C. Apply one coat of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious dissimilar materials.

## PART 3 EXECUTION

### 3.01 ERECTION

- A. Examine substrate. Verify dimensions of supporting structure by field measurements so work will be accurately designed, fabricated, and fitted to the structure. Use Contractor's approved bench marks as basis for measurements. Verify adjoining air and vapor seal materials are ready to receive work of this Section. Beginning of installation means installer accepts existing conditions.

- B. Dimensions shown on Drawings are based on an assumed design temperature of 70 degrees F. Fabrication and erection procedures shall take into account the ambient temperature range at the time of the respective operations.
- C. Coordinate with work of other Sections and provide items to be placed during the installation of other work at the proper time to avoid delays in the work. Place such items, including inserts and anchors, accurately in relation to the final location of aluminum components.
- D. Erect all component parts in accordance with the manufacturer's written instructions and recommendations. Cut and trim component parts during erection only with approval of manufacturer or fabricator, and in accordance with his recommendations. Do not cut through reinforcing or structural members. Restore finish completely to protect material and remove all evidence of cutting and trimming. Remove and replace members where cutting and trimming has impaired strength or appearance, as directed.
- E. Do not erect members which are observed to be warped, bowed, deformed or otherwise damaged or defaced to such extent as to impair strength or appearance. Remove and replace members damaged in the process of erection.
- F. Set units level, plumb, and true to line, with uniform joints. Support on metal shims and secure in place by bolting through shims and similar supports anchored to supporting structure. Use only the types of equipment, ropes, wedges, spacers, shims and other items during erection which will not stain or mark the finish of units.
- G. All exposed work shall be carefully matched to produce continuity of line, design and finish. Joints in exposed work, unless otherwise shown or required for thermal movement; accurately fitted, rigidly secured with hairline contacts and sealed watertight.
- H. Where two or more sections of metal are used in building up members, the surface in contact shall be brought to a smooth, true, and even surface and secured together so joints are absolutely tight without the use of any pointing material. Exposed sealants except where shown will not be permitted.
- I. Unless otherwise noted, all aluminum, sleeves shall be extruded sections designed to accurately interlock with adjacent sections with serrated surfaces for the secure bedding of sealant between parent metal and sleeve.
- J. Do not use horseshoe or "U" shaped shims, washers, or separators at dynamic connections or at static connections where there is any possibility of misalignment or loss of shim, washer, or separator. Provide nylon separators at all dynamic joints.
- K. Prime paint concealed clip angles and other ferrous metal parts with zinc chromate paint. Touch up abraded surfaces as required upon completion of installation.
- L. Paint concealed contact surfaces of dissimilar materials with heavy coating of bituminous paint, or provide other separation per manufacturer's recommendations.

### 3.02 SETTING AND SEALING

- A. Coordinate installation of sealant with all exterior and interior trim. Sealant shall be applied between window and base coat prior to finish coat.

- B. Do not install sealants when the temperature is below 40 degrees F, unless manufacturer recommends application at lower temperatures in writing.
- C. Do not proceed with installation during inclement weather unless all requirements and manufacturer's instructions can be complied with.
- D. Clean surfaces and remove protective coatings which might fail in adhesion or interfere with bond of compound and so that surfaces are free of deleterious substances which might impair the Work.
- E. Compressible Rod: Install as required for proper performance of sealant in specific joint as recommended by sealant manufacturer. Select shape and size of joint filler, in consultation with the manufacturer, for proper performance in the specific conditions of use in each case.
- F. Silicone Sealant: As specified in Section 07900.
- G. Butyl Rubber: As specified in Section 07900.
- H. Prime or seal substrate and install materials in accordance with manufacturer's instructions.
- I. Apply sealants in continuous beads, without open joints, voids, or air pockets, providing watertight and airtight seal for the entire joint length, and as specified in Section 07900.
- J. Remove excess compound promptly as the work progresses and clean the adjoining surfaces marred by the work of this Section.

### 3.03 FIELD QUALITY CONTROL

- A. After curing exterior compounds, test assemblies for leaks by applying a stream of water perpendicularly from a 3/4 in. hose at normal city water pressure. Test system in not less than 5 percent of the construction components, where directed. Conduct tests in the presence of Owner's Representative who will determine actual areas to be tested. Repair leaks or other defects and retest as directed. Repair or replace other work damaged by such leaks.

### 3.04 PROTECTION AND CLEANING

- A. Protect exposed anodized surfaces and screens until final acceptance of building.
- B. Temporary coating, coverings and cleaning provided to protect the work during shipment, storage, erections and construction, carefully selected, applied and maintained so that finishes will not become uneven or otherwise impaired as a result of unequal exposure to light and weathering conditions.
- C. Remove protection when requested for inspection of finishes, and replace.
- D. Remove mortar, plaster, and any other deleterious material from surfaces of aluminum immediately.

END OF SECTION

SECTION 08800

GLAZING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Glass and glazing for hollow metal work.

B. Related Work Described Elsewhere:

- |    |                  |               |
|----|------------------|---------------|
| 1. | Finish Carpentry | Section 06200 |
| 2. | Joint Sealants   | Section 07900 |
| 3. | Aluminum Windows | Section 08520 |

C. References:

1. American National Standards Institute (ANSI): ANSI Z97.1-1984 Glazing Material Used in Buildings, Performance Specifications and Methods of Test for Safety.
2. American Society for Testing and Materials (ASTM):
  - a. E283-84 Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
  - b. E331-86 Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  - c. E774-84a Sealed Insulating Glass Units.
3. Federal Specifications (FS):
  - a. DD-G-451 Glass, Float or Plate, Sheet, Figured (Flat, for Glazing, Mirrors and Other Uses).
  - b. DD-G-1403 Glass, Plate (Float), Sheet, Figured and Spandrel (Heat Strengthened and Fully Tempered).
4. Flat Glass Manufacturer's Association (FGMA): Glazing Manual and Glazing Sealing System Manual.
5. Sealed Insulating Glass Manufacturers Association (SIGMA): 70-7-1 Recommended Practices for Vertical Field Glazing of Organically Sealed Insulated Glass Units.

1.02 QUALITY ASSURANCE

- A. Conform to FGMA Glazing Manual and Glazing Sealing Systems Manual for glazing installation methods.

B. Certification:

Manufacturer of secondary sealant for insulating glass shall test glass and glazing materials and accessories for compatibility with secondary sealant; furnish test results and certification that materials furnished meet or exceed specified requirements and that use of products will not adversely affect performance of other products in combination.

C. Design Criteria:

Wind Load: Verify that glass thickness indicated shall resist minimum 30 psf uniform pressure acting inwardly or outwardly without exceeding deflection limits specified.

1. Normal-to-wall deflection: Maximum 1/200 of span.
2. Parallel-to-wall deflection: less than 75% of glass edge clearances.
3. Where required to meet the above limits, provide heat strengthened glass where float is scheduled. Do not increase glass thickness.

1.03 SUBMITTALS

- A. Submit manufacturer's specifications and installation instructions for each type of glazing sealant and compound gasket, and associated miscellaneous material required under provisions of Section 01340. Include manufacturer's published data, or letter of certification, or certified test laboratory report indicating that each material complies with the requirements, and is intended generally for the applications shown.
- B. Provide structural, physical and environmental characteristics, size limitation, special handling or installation requirements.
- C. Submit 12 x 12 in size, illustrating specified glass unit.
- D. Submit 12 in. long bead of glazing sealant in color selected.
- E. Submit sealed glass unit manufacture's certificate indicating units meet or exceed specified requirements.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver to site and handle products under provisions of Section 01610.
- B. Store and protect products under provisions of Section 01620.

1.05 WARRANTY

- A. Provide manufacturer's warranty under provisions of Section 01740.
- B. Warranty:
  1. Include coverage of sealed glass units from seal failure, interpane dusting, or misting, replacement of same for a period of ten years.
  2. Include coverage of laminated glass units from edge separation or material defects such as bubbling, discoloration, loss of physical and mechanical properties, and obstruction of vision through the glass surface, and replacement of same for a period of five years.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Primary Glass:

K+A designstudios, P.C.

---

1. PPG Industries, Inc.
2. Cardinal Insulating Glass (CIG)
3. LOF

B. Substitutions: Refer to Section 01630.

## 2.02 GLASS MATERIALS

A. Insulating Glass: Tempered glass: Clear ¼ inch thick glass as indicated, fully tempered as required by ANSI Z97.1. Tong-free with roll marks in horizontal plane. Perform required cutting, shaping, boring and grinding prior to tempering. ASTM E774, Class A. Two 1/4 in. thick glass lites with sealed dry air or gas filled space having -40° F. or lower dew point. Total 1 in. thick, with keyed corner galvanized steel spacers filled with desiccant.

1. Outboard glass shall be:  
Type A: PPG Azuria ¼ in. tempered clear.
2. Inboard Glass shall be ¼" tempered clear. Provide PPG #400 Low E on #3 surface clear.

B. Azuria + Sungate 400 (3) Clear:

1. Description: Azuria glass by PPG is a spectrally selective tinted glass with an aqua-blue appearance which, when paired in an insulated glass unit with a third-surface Sungate 400 passive low-e coating on a clear interior lite, it provides visible light transmittance of 59%, a solar heat gain coefficient of 0.34, and a light to solar ratio of 1.65.
  - a. Outdoor Lite: Caribia spectrally selective tinted glass.
  - b. Indoor Lite: Clear glass with a third-surface Sungate 500 passive low-e coating.

C. Specifications:

1. SHGC: 0.34
2. Shading Coefficient: 0.39
3. Visible Light Transmission: 59%
4. U-Value Winter: 0.32
5. U-Value Summer: 0.31
6. Outdoor Visible Light Reflectance: 10%

D. Type: Pyrolytic Low-E Clear Insulating Glass "Sungate®" 400

1. Clear + Clear by PPG Industries, Inc.
2. Outdoor Lite: Clear Glass, Pyrolytic Coated on second surface
3. Indoor Lite: Clear Float Glass Low-E Coating: "Sungate" 400 (Pyrolytic) by PPG Industries, Inc. Location: Second Surface (2)

E. Performance Values:

1. Certification: Both lites to be Cradle to Cradle certified, minimum Silver Level, by McDonough Braungart Design Chemistry, LLC (MBDC [www.mbdc.com](http://www.mbdc.com)).

2. Outdoor Appearance: Clear color, low-reflective glass product Insulating Unit Construction: 1/4" (6mm) glass + 1/2" (13mm) air space + 1/4" (6mm) glass.

### 2.03 GLAZING ACCESSORIES

- A. Glazing Sealant: As specified Section 07900.
- B. Provide glazing accessories, for use with insulating glass units, compatible with products of, and recommended by, manufacturer of secondary seal. Dow Corning Custom Extractions or acceptable substitute. Include setting blocks, space shims, glazing tape, and compressible filler rods.

## PART 3 EXECUTION

### 3.01 INSPECTION

- A. Verify surfaces of glazing channels and recesses are clean, free of obstructions, and ready for work of this Section.
- B. Beginning of installation means acceptance of substrate.

### 3.02 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Matching: Unify appearance of each series of lites by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, draw and bow oriented in same direction as other pieces. Install tempered glass with roll marks in horizontal plane.

### 3.03 INSULATING GLASS

- A. Install insulating glass units in accordance with requirements of SIGMA 70-7-1.

### 3.04 INTERIOR COMBINATION METHOD AT EXTERIOR STEEL DOORS AND FRAMES

- A. Cut glazing tape to length; install against permanent stops, projecting 1/16 in. above sight.
- B. Place setting blocks at 1/4 points.
- C. Rest glass on setting blocks and push against fixed stop with sufficient pressure to attain full contact at perimeter of pane.
- D. Install removable stops without displacement of glazing spline. Exert pressure for full continuous contact.
- E. Fill gap between pane and stops with silicone type sealant to depth equal to bite of frame on pane, but not more than 3/8 in. below sightline.
- F. Trim protruding tape edge.

- G. Apply sealant to uniform line, flush with sight line. Tool or wipe sealant surfaces with solvent for smooth appearance.

### 3.05 INTERIOR DRY METHOD AT INTERIOR RELITES AND DOORS

- A. Cut glazing tape to length and set against permanent stops, projecting 1/16 in. above sightline.
- B. Place setting blocks at 1/4 points.
- C. Rest glass on setting blocks and push against tape for full contact at perimeter of pane.
- D. Place glazing tape on free perimeter of pane in same manner described above.
- E. Install removable stop without displacement of tape. Exert pressures on tape for full continuous contact.
- F. Knife trim protruding tape.

### 3.06 GLAZING METHOD AT ALUMINUM WINDOWS

- A. Specified under Section 08520.

### 3.08 CLEANING

- A. Clean glazing under provisions of Section 01710.
- B. After installation, mark pane with an "X" on interior of frame by using plastic tape or streamers. Do not apply markers directly to glass.
- C. Remove glazing materials from finish surfaces.
- D. Remove labels after work is completed.
- E. Wash and polish glass on exposed surfaces not more than four days prior to Substantial Completion, under provisions of Section 01710.
- F. Clean glass in accordance with manufacturer's recommendations. Do not use abrasive materials or broken razor blades for cleaning.

END OF SECTION



SECTION 09250 GYPSUM WALLBOARD

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Gypsum Board.
2. Furring and miscellaneous light gage metal shapes.
3. Taped and sanded joint treatment.
4. Acoustical accessories.

B. Related Work Described Elsewhere:

1. Batt Insulation Section 07213
2. Joint Sealers Section 07900

C. References:

1. American Society for Testing and Materials (ASTM) :
  - a. C36-84a Gypsum Wallboard.
  - b. C442-84a Gypsum Backing Board
  - c. C475-81 Joint Treatment Materials for Gypsum Wallboard Construction.
  - d. C665-84 Mineral Fiber Blanket Thermal Insulation for Light Frame Construction
  - e. E84-84 Surface Burning Characteristics of Building Materials.
2. Gypsum Association (GA) :
  - a. GA 216 Recommended Specifications for Application and Finishing of Gypsum Board.
  - b. GA 219 Recommendations for Installation of Steel Door Frames in Steel Stud Gypsum Board Fire - Rated Partitions.

1.02 QUALITY ASSURANCE

- A. Perform gypsum board systems work in accordance with recommendations of GA 216 unless otherwise specified in this Section.
- B. Keep copy of GA 216 on site for duration of Project.

1.03 REGULATORY REQUIREMENTS

- A. Fire-Rated Partitions: Listed by UL.
- B. Fire-Rated Ceilings: Listed by UL.

## 1.06 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions under provisions of Section 01340.

## PART 2 PRODUCTS

### 2.01 FURRING ACCESSORIES

- A. Provide materials in accordance with GA 216.
- B. Furring Channels: Minimum 25 ga. roll-formed galvanized steel hat shaped channels, 7/8 in. deep.
- C. Resilient Channels: Formed-steel; minimum 25 ga.; size and length required, flattened "Z" profile. Manufactured by US Gypsum.
- D. Furring, Fasteners and Anchorage: ASTM C754.
  - 1. To masonry and concrete: Hammer-set or power-driven.
  - 2. To wood framing: Type W Bugle Screws, 1-1/4 in. long.
  - 3. To sheet metal studs: Type S Bugle Screws, 1-1/4 in. long.
  - 4. To steel shapes: Self-drilling fasteners similar and equal to Buildex "Tek" screws; size and type suitable for condition of use.

### 2.02 GYPSUM BOARD

- A. Provide gypsum board materials in accordance with recommendations of GA 216. All materials fire resistant.
- B. Fire Rated Gypsum Board: ASTM C-365 Type "X"; maximum permissible length.
  - 1. Thickness: 5/8 in. thick, except 1/2 in. thick where shown
  - 2. Width: 4'
  - 3. Length: 8'
  - 4. Weight: 2500 lbs
  - 5. Edges: Tapered
  - 6. Surfacing: Coated fiberglass mat on face, back
  - 7. Flexural strength, parallel, lbf: 100
  - 8. Flexural strength, perpendicular: 140
  - 9. R Value: .67
  - 10. Combustibility: Non-combustible
  - 11. Nail pull resistance, minimum, lbf: 90
  - 12. Hardness core, edges, and ends, lbf: >15
  - 13. Water absorption (% of weight): <5%
  - 14. Surface water absorption: <1.6 grams
  - 15. Surface burning characteristics (per ASTM E 84) flame spread//smoke developed:  
0/0
  - 16. Bending Radius: 8'
- C. Gypsum Backing Board: ASTM C442, Type "X"; 5/8 in. thick, except 1/2 in. thick where shown; maximum permissible length; ends square cut.

D. High Density Gypsum Board: Georgia Pacific Dens Armor Plus Fireguard.

E. Exterior Gypsum Wall Sheathing: Georgia Pacific DensGlass or equal.

#### 2.03 GYPSUM BOARD ACCESSORIES

A. Provide gypsum board accessories in accordance with GA 201 and GA 216.

B. Corner Beads: Metal. GA 201; ANSI-CB-114 x 114.

C. Edge Trim: GA 201 and GA 216; "L" Bead; ANSI-LS-58.

D. Reinforcing Tape, Joint Compound, Adhesive, Water, Fasteners: GA 216.

E. Fasteners: GA 216:

1. To metal furring: Type S, self-drilling, self tapping, 1-1/4 in. long at single layer; 1-5/8 in. long at double layer construction.
2. To wood framing: Type W, 1-1/4 in. long.
3. To joists at one-hour rated roof-ceiling construction: First Layer - Type S Bugle screws, 1-5/8 in. long at 12 in. o.c. Second Layer - Type S Bugle screws, 2 in. long at 12 in. o.c. in field and 8 in. o.c. at butt edges, unless otherwise required to achieve assembly rating.
4. To concrete or block walls: OSI Pro-Series Fourmula #38, per manufactures specifications.

#### 2.04 ACOUSTICAL ACCESSORIES

A. Acoustical Sealant: Specified under Section 07900.

#### 2.06 FASTENERS

A. Self-drilling, self-tapping drywall and metal screws in accordance with ASTM C1002 and GA 216. Only GWB screws allowed in GWB, no nails.

1. Length to penetrate GWB and Backing.

B. Metal Studs to Runners, Furring Channels, and Other Metal Accessories: Self-drilling, self-tapping pan head type "S" screws, size per metal stud manufacturer's written recommendations for specified fire resistance but not less than 3/8 inch long.

### PART 3 EXECUTION

#### 3.01 INSPECTION

A. Review and coordinate sequencing of work to ensure that everything to be concealed by gypsum board has been accomplished, and that chases, access panels, openings, supplementary framing and blocking, vapor retarders and similar provisions have been completed.

- B. Beginning of installation means installer accepts condition of substrates.

### 3.02 GYPSUM BOARD INSTALLATION

- A. Heat space to receive gypsum board as required to maintain a constant and uniform 55 degrees F. minimum for one week prior to start of installation. Maintain temperature until permanent heating system is in operations.
- B. Verify that partitions requiring thermal or sound installation are properly insulated prior to placing gypsum board.
- C. Install gypsum board per GA 216.
- D. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
- E. For double layer applications, use gypsum backing board for first layer, placed perpendicular to framing or furring members. Place second layer perpendicular to first layer. Ensure joints of second layer do not occur over joints of first layer.
- F. Apply all gypsum board at masonry in vertical panel direction and secure in place until all has cured per manufacture recommendation.
- G. For double layer applications, use second layer through first into framing with screws fasteners specified. Spacing of fasteners in accordance with GA 201, except space fasteners in accordance with UBC at fire rated assemblies.
- H. Place corner beads at external corners. Use longest practicable lengths. Place edge trim where gypsum board abutts dissimilar materials and at reveals.
- I. Wrap gypsum board behind recessed items in rated gypsum board partitions.

### 3.03 JOINT TREATMENT

- A. Maintain temperature at minimum 55 °F.
- B. Provide adequate and continuous ventilation to ensure proper drying, setting and curing of joint treatment compounds.
- C. Mix joint treatment compounds in accordance with manufacturer's instructions.
- D. Apply joint treatment materials in accordance with GA 201, GA 216, and manufacturer's instructions.
- E. Tape, fill and sand exposed joints, edges, and corners to produce surface ready to receive surface finishes. Feather embedding and minimum two topping coats onto adjoining surfaces so that camber is maximum 1/32 in. Finishing of taping is not required in concealed spaces and above finished ceilings. Taping is not required above acoustical tile finished on ceiling in classrooms.
- F. Remove and correct defective work.

- G. All gypsum wall board shall be firetaped.

#### 3.04 ACOUSTICAL SEALANT INSTALLATION

- A. Place acoustical sealant within partitions in accordance with manufacturer's instructions. All walls with acoustical blanket insulation shall receive sealant at bottom plate.
- B. Apply acoustical sealant in 3/8 in. diameter continuous beads to both sides of runners, plates and end studs to seal intersection with adjoining structure.
- C. Seal perimeter of gypsum board in noted sound wall to abutting substrate. Seal penetrations of partitions and ceilings.

#### 3.05 CLEANING

- A. Provide cleaning under provisions of Section 01569 and 01710.
- B. Remove all rubbish, excess materials, and equipment from building and site, clean surrounding surfaces and leave floors clean.

END OF SECTION



SECTION 09900

PAINTING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Prepare surfaces to receive finish.
2. Finish surfaces as indicated in schedule at end of this Section.

B. Related Work in Other Sections:

1. Joint Sealers Section 07900

1.02 QUALITY ASSURANCE

- A. Container labels shall include manufacturer's name, type of paint, stock number, color, label analysis, and where applicable instructions for reducing.

1.03 MOCKUP

- A. Before proceeding with paint application, finish one complete surface of each color scheme required, clearly indicating selected colors, finish texture, materials, and workmanship. For spray application, paint surface not smaller than 100 sq.ft. as Project standard.
- B. If accepted, sample area will serve as a minimum standard for work throughout Work.

1.04 SUBMITTALS

- A. Submit materials list, product data, samples and manufacturer's instructions under provisions of Section 01340.
- B. Submit manufacturer's product data on each paint material used on project.
- C. Prepare 12 in. x 12 in. samples of finishes when requested by Owner. Transparent finishes on solid lumber may be 4 in. x 8 in. When possible, apply finishes on identical type materials to which they will be applied on job.
- D. Identify each sample as to finish, formula, color name and number, sheen name, and gloss units.
- E. Colors selected by Owner prior to commencement of work.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver paint materials under provisions of Section 01610 in sealed original labeled container.
- B. Store and protect materials under provisions of Section 01620. Provide adequate storage facilities. Store paint materials at minimum ambient temperatures of 45 °F in well ventilated area.
- C. Take precautionary measure to prevent fire hazards and spontaneous combustion.

## 1.06 ENVIRONMENTAL REQUIREMENTS

- A. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture contents of surfaces are below following maximums: Refer to Section 01500.
  - 1. Plaster and gypsum wallboard: 12 percent.
  - 2. Concrete and Concrete Masonry Units: 12 percent.
  - 3. Interior Located Wood : 12 percent
  - 4. Exterior Located Wood: 19 percent
- B. Ensure surface temperatures or the surrounding air temperature is above 45°F before applying finishes. Minimum application temperatures for latex paints for interior work are 60°F and 50°F for exterior work. Minimum application temperature for varnish finishes is 75°F.
  - 1. Do not paint exterior surfaces after September 30th unless surrounding air temperature is above 45°F.
- C. Provide adequate continuous ventilation and sufficient heating facilities to maintain temperatures above 45°F, and 75°F, as applicable, for 24 hours before, during and 48 hours after applications of finishes.
- D. Provide minimum 25 foot candles illumination on surfaces to be finished.

## 1.07 MAINTENANCE DATA

- A. Submit maintenance data under provisions of Section 01730.
- B. Indicate cleaning methods, cleaning solutions recommended, and stain removal methods recommended.

## 1.08 EXTRA STOCK

- A. Furnish extra stock under provisions of Section 01750. Leave on premises, where directed by Owner, not less than one gallon each type and color used.
- B. Tightly seal and clearly label containers for identifications.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Columbia Paints
- B. ICI Paints
- C. Glidden Coatings and Resins
- D. PPG Industries, Inc.
- E. Parker Paints
- F. Substitutions: Under provisions of Section 01630.

### 2.02 PAINT AND ENAMEL MATERIALS

- A. Paint and Enamel: Type and brand listed as manufactured by ICI Paints, unless otherwise noted.

1. Owner's review of other acceptable manufacturer's products may include reference to "Architectural Specification Manual" published by Specifications Services and the Washington State Council Painting and Decorating Contractors of America. Provide first line materials.

B. Paint Accessory Materials: Linseed oil, shellac, turpentine and other materials not specifically indicated herein but required to achieve the finishes specified shall be of high quality and acceptable manufacturer.

C. Paint: Ready-mixed except field catalyzed coatings. Pigments fully ground maintaining a soft paste consistency, readily and uniformly dispersed to complete homogeneous mixture.

D. Paint shall have good flowing and brushing properties and dry or cure free of streaks and sags.

### 2.03 FINISHES

A. Refer to surface finish schedule at end of this Section.

B. Provide finish for all exposed materials factory primed or unfinished, unless specifically stated as not requiring finish.

### 2.04 PAINT SYSTEMS

A. INTERIOR PAINT SYSTEMS: COLUMBIA PAINT AND COATINGS

1. ON DRYWALL - IPS 10 (*General*) \**Italicized Text Signifies Designer Notes*  
COLOR: COLUMBIA- TO BE DETERMINED BY ARCHITECT

a. FIRST COAT: 02-735 PREMIUM PRO INTERIOR LATEX  
ENAMEL UNDERCOATER

b. FINISH COAT: 02-255 PREMIUM PRO ACRY-PLUS  
INTERIOR LATEX EGGSHELL

B. EXTERIOR PAINT SYSTEMS: COLUMBIA PAINT AND COATINGS

1. ON CONCRETE BLOCK (EPS 10)  
COLOR: COLUMBIA- TO BE DETERMINED BY ARCHITECT

a. FIRST COAT: 01-0443 PROFESSIONAL HIGH BUILD  
INT/EXT LATEX BLOCK FILLER

b. FINISH COAT: 02-250 PREMIUM PRO ACRY-PLUS  
INTERIOR LATEX FLAT

2. ON GALVANIZED STEEL (EPS 20)  
COLOR: COLUMBIA- TO BE DETERMINED BY ARCHITECT

a. FIRST COAT: 05-2554 PROFESSIONAL METAL PRIME

b. FINISH COAT: 01-235 PREMIUM PRO EXTERIOR 100%  
ACRYLIC LATEX FLAT

### PART 3 EXECUTION

#### 3.01 INSPECTION

- A. Thoroughly examine surfaces scheduled to be painted prior to commencement of work. Report in writing to Owner, conditions that may potentially affect proper application. Do not commence until such defects have been properly corrected.
- B. Properly correct defects and deficiencies in surfaces which may adversely affect work of this Section.
- C. Beginning of installation means installer accepts existing substrates.

#### 3.02 PROTECTION

- A. Adequately protect other surfaces from paint and damage. Repair damage resulting from inadequate, and unsuitable protection.
- B. Use sufficient drop cloths, shields, and protective equipment to prevent spray and droppings from fouling surfaces not being painted, surfaces within storage and preparation area.
- C. Place cotton waste, cloths, and material which may constitute fire hazards, in closed metal containers and remove daily from site.
- D. Prior to painting operations, remove electrical plates, surface hardware, fittings and fastenings. Carefully store, clean, and replace on completion of work in each area. Do not use solvent to clean hardware with permanent lacquer finish.

#### 3.03 PREPARATION

- A. Remove mildew, by scrubbing with solutions of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry completely.
- B. Remove contamination from gypsum board surfaces and prime to show defects, if any. Paint after defects have been remedied.
- C. Remove surface contamination and oils from zinc coated surface and prepare for priming in accordance with metal manufacturer's recommendations.
- D. Remove dirt, loose mortar, scale, powder and other foreign matter from concrete and unit masonry surfaces to be painted. Remove oil and grease with solutions of tri-sodium phosphate; rinse well and allow to thoroughly dry.
- E. Remove grease, rust, scale, dirt, and dust from steel and iron surfaces. Where heavy coatings of scale are evident, remove by wire brushing, sandblasting, or other necessary method. Ensure steel surfaces are satisfactory before painting.
- F. Clean unprimed steel surfaces by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Prime surfaces to indicate defects. Paint after defects have been remedied.

K+A designstudios, P.C.

---

- G. Sand and scrape shop primed steel surfaces to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- H. Galvanized Metals:
  - 1. Solvent clean with toluol, xylo, or lacquer thinner to remove oils, grease and other contaminants. Don not use paint thinner or turpentine.
  - 2. Use phosphoric acid based, etching type, surface treatment compatible with painting system materials. Follow surface treatment manufacturer's instructions.
  - 3. Where conditions require, use strong acid treatment or sand blasting to prepare galvanized surfaces scheduled to receive paint finish.
- I. Wipe off dust and grit from miscellaneous wood items and millwork prior to priming. Sand wood, scheduled to receive transparent finish, to unblemished condition. Visible sanding scratches are unacceptable. Spot-coat knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried, and sand between coats. Remove factory applied sealers containing wax from glue laminated members finished under this Section by solvent wiping and sanding before coating. Back prime interior and exterior woodwork.

#### 3.04 APPLICATIONS

- A. Apply products in accordance with manufacturer's instructions.
- B. Apply each coat to uniform finish, at proper consistency.
- C. Tint each coat of paint slightly darker than preceding coat unless otherwise accepted by Owner's Representative.
- D. Sand lightly between coats to achieve required finish.
- E. Do not apply finishes on surfaces not sufficiently dry.
- F. Allow each coat of finish to dry before applying following coat, unless directed otherwise by manufacturer.
- G. Where clear finishes are required, tint fillers to match wood. Work fillers well into grain before set. Wipe excess from surfaces.
- H. Prime top and bottom edges of hollow metal doors with enamel undercoat.
- I. Prime back surfaces of interior and exterior woodwork with primer paint.
- J. Prime back surfaces of interior wood work scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
- K. Colors:
  - 1. Anticipate maximum 3 field colors and 4 accent colors for paint and enamel systems.
  - 2. Anticipate maximum 1 field color and no accent colors for each of the other paint and stain systems.

3.05 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Remove grilles, covers, and access panels for mechanical and electrical systems for locations and paint separately.
- B. Finish paint primed equipment to color selected.
- C. Paint interior surfaces of air ducts, convactor and baseboard heating cabinets visible through grilles and louvers with one coat flat black paint, to limit of sight line.
  - 1. Paint dampers exposed immediately behind louvers, grilles, convactor and baseboard cabinets to match face panels.
- D. Paint both sides and edges of plywood backboards for electrical equipment before installing backboards and mounting equipment.
- E. Paint electrical panel boards and frames. In locations other than electrical/mechanical rooms, paint color to match adjacent wall surfaces.

3.06 CLEANING

- A. As work proceeds and upon completion, promptly remove paint spills, splashes, and spatters.
- B. During progress of work keep premises free from unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Upon completion of work leave premises neat and clean.

END OF SECTION