ANCHORAGE SENIOR CENTER GARAGE ADDITION

INVITATION TO BID NO. 2022C012

Municipality of Anchorage
Maintenance & Operations
Capital Projects
PO Box 196650
Anchorage, AK 99519

MUNICIPALITY OF ANCHORAGE

MUNICIPALITY OF ANCHORAGE
MAINTENANCE AND OPERATIONS DEPARTMENT
CAPITAL PROJECTS

ANCHORAGE SENIOR CENTER GARAGE ADDITION

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MUNICIPALITY OF ANCHORAGE
PURCHASING DEPARTMENT

Invitation to Bid

No. 2023C012

Sealed bids will be received in accordance with the time schedule shown below by the Municipality of Anchorage at the Purchasing Department, 632 W. 6th Ave., Suite 520, Anchorage, Alaska 99501 for:

Anchorage Senior Center Garage Addition

The Work that is presented in the Bid Proposal for this Contract consists of the Contractor to construct an Garage and storage addition to an existing storage building. Minor site modifications to existing parking spaces and sidewalks to accommodate new building access

ESTIMATED CONSTRUCTION COST: **Between: $350,000 - $500,000**

Site Visit: **10:00 A.M. Local Time, May 3, 2023**
1300 E. 19th Ave., Anchorage, AK.

Pre-Bid Conference: **N/A**

Questions Due: **12:00 P.M. Local Time, May 5, 2023**

Bid Opening: **2:00 P.M. Local Time, May 23, 2023**

All Pre-Bid Conferences and/or Bid Openings may be attended in person or via conference call at this number (907) 343-6089. You may call in five (5) minutes before any scheduled conference. EMAILED BIDS WILL NOT BE ACCEPTED.

ALL QUESTIONS SHALL BE SUBMITTED PRIOR TO THE QUESTION DUE DATE THIS WILL BE THE FINAL OPPORTUNITY TO ASK QUESTIONS OR REQUEST CLARIFICATIONS.

Requests for interpretation or clarification of the bidding Documents shall be made in writing to the Purchasing Office (wwpur@muni.org). Please reference the Invitation to Bid Number & Project Title. Do not contact the specified department directly.

To maintain the project schedule, Interpretations, corrections, or changes to the Bidding Documents shall be made by Addendum and shall not be binding unless included in the Addendum. It is your responsibility to periodically check the website for addenda.

Municipality of Anchorage
ITB: 2023C012

At the above indicated time, the bids will be opened publicly and read. Bids must be received by the Purchasing Officer prior to the time fixed for opening of the bids to be considered. Time of receipt will be as determined by the time stamp in the Purchasing Office, Suite 520.

The Municipality of Anchorage reserves the right to reject any and all bids and to waive any informalities in the bids. No bidder may withdraw his bid after the hour set for the opening of bids or before the award of contract unless said award is delayed for a period exceeding sixty (60) days from the time of the opening.

The Municipality shall not be responsible for bid preparation costs, nor for costs, including attorney fees, associated with any (administrative, judicial or otherwise) challenge to the determination of the lowest responsive and responsible bidder and/or award of contract, and/or rejection of bids. By submitting a bid, each bidder agrees to be bound in this respect and waives all claims to such costs and fees.

Contracts shall be awarded by written notice issued by the Purchasing Officer to the lowest responsive and responsible bidder; however, preference will be given to local bidders in compliance with Anchorage Municipal Code Section 7.20.040.

The Municipality of Anchorage assumes no responsibility for any interpretations or presentations made by any of its officers or agents unless such interpretations or presentations are made by written addendum to this Invitation to Bid.

Bonding Requirements are per MASS/MASS B or as per special provisions

THE MUNICIPALITY OF ANCHORAGE IS AN "EQUAL OPPORTUNITY EMPLOYER"

PUBLISH ONE TIME

Date: April 28, 2023

Senior Buyer Assigned to this Project:
Melanie A Clark

Chris Hunter

Chris Hunter
Deputy Purchasing Director

BIDDER'S CHECKLIST

INSTRUCTION TO BIDDER

I. GENERAL:

Bidders are advised that notwithstanding any instructions or implications elsewhere in this Invitation to Bid only the documents shown and detailed on this sheet need be submitted with and made part of their bid. Other documents may be required to be submitted after bid time, but prior to award. Bidders are hereby advised that failure to submit the documents shown and detailed on this sheet shall be justification for rendering the bid nonresponsive. Evaluation of bids for responsiveness shall be accomplished in accordance with Anchorage Municipal Code, Title 7.

II. REQUIRED DOCUMENTS FOR BID

NOTE: "Only the following listed items as marked with an "X" are required to be completely filled out and submitted with the bid."

X Bid Proposal consisting of two (2) pages number1 - 2 through 2 - 2 Bid Proposal Page 2 **must** be manually signed.

X Erasures or other changes made to the Bid Proposal Sheet must be initialed by the person signing the bid.

X Bid Bond, certified check, cashier's check, money order or cash shall be submitted with the bid in the amount indicated.

X All Addenda issued shall be acknowledged in the space provided on the Bid Proposal sheet or by manually signing the Addenda sheet and submitting it prior to the bid opening in accordance with Anchorage Municipal Code 7.20.020C.

III. REQUIRED DOCUMENTS AFTER BID OPENING

The following documents are required within **five (5)** working days of notification by the Purchasing Office. Failure, in whole or in part, to submit the documents required below shall be grounds to determine the Bidder as non-responsible.

X In accordance with AO No. 2019-130 (S), Anchorage Municipal Code 7.20.030 and 7.20.070, Contractor Questionnaire consisting of three (3) Pages, Prime Contractor Form Filled out by Prime Contractor **and** all known subcontractors.

NOTICE: As of December 3, 2019, there are new requirements for determining contractor responsibility. Please review AO NO. 2019-130 (S), AMC 7.20.030 and 7.20.070, and the attached Contractor Questionnaire before submitting a bid.

Municipality of Anchorage
Contractor Questionnaire

Contractors/Vendors wishing to qualify for award of a bid or proposal offered by the Municipality of Anchorage shall submit this completed form and any supplemental information requested by this form within five days following a request by the Purchasing Officer.

This form is to be filled out by the prime, and subcontractors that perform work "on-site". On-site is defined as the physical place or places where the building or work called for in the contract will remain, and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contract or project.

Contractor/Vendor Name: _____

Owner(s) of Company (if sole proprietorship or partnership): _____

_____

List all Alaska construction contractor's registration numbers, registration types and expiration dates of the Alaska business licenses held by your company in the past three years:

_____

_____

Has your company changed names, business license number, or contractor registration number in the past three years?

☐ Yes ☐ No

If "Yes," explain on a separate signed page, including the reason for the change.

Has any owner, partner or (for corporations) officer of your company operated any business offering similar services outlined in the bid or proposal under any other name in the past three years?

☐ Yes ☐ No

If "Yes," explain on a separate signed page, including the reason for the change.

Certifications & Disclosures

For these questions & certifications, "company" includes any entity that shares or has shared majority ownership or control with your company. "Determination of violation" includes any citations, orders or recommendations issued to or against the company.

Debarment

1. In the last three years has your company been debarred from bidding on, or being awarded, a state or federal project?

   ☐ Yes ☐ No

Occupational Safety & Health

Note: Only willful violations of state or federal occupational safety and health laws will result in disqualification; disclosure of other violations does not lead to automatic disqualification.

2. In the last three years has your company been determined to have committed a **willful violation** of state or federal occupational safety and health law? For purposes of this question, a state or federal occupational safety and health law includes laws enforced by the Occupational Safety and Health Administration (OSHA), Alaska Occupational Safety and Health (AKOSH), or another state's occupational safety and health agency.

☐ Yes ☐ No

3. In the last three years, has the federal Occupational Safety and Health Administration (OSHA), Alaska Occupational Safety and Health (AKOSH), or another state's occupational safety and health agency, made a determination of violation against your company?

Note: If you have filed an appeal of a citation and the appropriate appeals board has not yet ruled on your appeal, you need not include information about it.

☐ Yes ☐ No

If "Yes," attach a separate signed page describing each citation.

Wage & Hour

Note: Only willful violations of state or federal wage and hour laws will result in disqualification; disclosure of other violations does not lead to automatic disqualification.

4. In the last three years has your company been determined to have committed a **willful violation** of state or federal wage and hour law?

☐ Yes ☐ No

5. In the last three years has there been a determination of violation of wage and hour laws against your company? Wage and hour violations include failure to pay minimum wages, overtime, or prevailing wages.

☐ Yes ☐ No

If "Yes," attach a separate signed page describing each violation, identifying the claim by claimant, date, and status/outcome.

Unemployment Insurance & Workers' Compensation

6. In the last three years has there been a determination of violation of unemployment insurance or workers' compensation requirements against your company?

☐ Yes ☐ No

If "Yes," attach a separate signed page describing each violation, identifying the claim by claimant, date, and status/outcome.

Licensing & Registration

7. If a license or certificate of fitness is required to perform any services provided by your company, has there been a determination of violation of any certificate of fitness requirements against your company in the last three years?

   ☐ Yes ☐ No

   If "Yes," attach a separate signed page describing each violation, identifying the claim by claimant, date, and status/outcome.

Subcontracting

8. I certify that all independent subcontractors engaged by my company meet the definition of an independent contractor under Alaska Statute 23.30.230.

   ☐ Yes ☐ No

9. I understand that my company is responsible for ensuring that each subcontractor my company uses on the project completes this form and associated documentation. I will submit any disclosures required by Anchorage Municipal Code.

   ☐ I understand

10. I understand that my company is responsible for providing this form and any associated documentation for each subcontractor hired after award within 30 days of hire, and that the subcontractor may not begin work on the project until such information is provided.

    ☐ I understand

11. I understand that my company is responsible for ensuring that if any event, such as a violation or loss of coverage, causes the information submitted by the subcontractor to change, the subcontractor shall submit updated certifications or disclosures within 30 days of occurrence to the department contract administrator.

    ☐ I understand

I declare under penalty of perjury that the foregoing is true and correct.

Dated: _____ _____
(Signature)

_____
(Printed name and title)

Right to Appeal: Anchorage Municipal Code provides that any person adversely affected in connection with the award of a municipal contract, including the Municipality's determination on responsibility, may request that the mayor or assembly refer the matter to the bidding review board.

BID PROPOSAL
(CERTIFICATION)

TO: MUNICIPALITY OF ANCHORAGE _____, 2023
PURCHASING DEPARTMENT
632 W. 6TH AVENUE, SUITE 520
ANCHORAGE, ALASKA 99501

SUBJECT: Invitation to Bid No**. 2023C012**

PROJECT TITLE: Anchorage Senior Center Garage Addition

Pursuant to and in compliance with subject Invitation to Bid, and other bid documents relating thereto, the bidder hereby proposes to furnish all labor and materials and to perform all work for the construction of the above referenced project in strict accordance with the bid documents at the prices established in the Bid Proposal, page **BP- 1 through BP- 2** submitted herewith.

The bidder agrees, if awarded the contract, to commence and complete the work within the time specified in the bid documents.

BASIC BID; LUMP SUM $_____

The bidder acknowledges receipt of the following addenda:

Addenda No._____ Addenda No. _____
Addenda No._____ Addenda No. _____
Addenda No._____ Addenda No. _____

Enclosed is a Bid Bond in the amount of _____.
(Dollar Amount or Percentage of Bid)

Type of Business Organization
The bidder, by checking the applicable box, represents that it operates as ( ) a corporation incorporated under the laws of the State of _____, ( ) an individual, ( ) an LLC, ( ) a partnership, ( ) a nonprofit organization, or ( ) a joint venture. If a partnership or joint venture, identify all parties on a separate page.

_____
Company Name

BID PROPOSAL
(CERTIFICATION)
Continued

SUBJECT: Invitation to Bid No. **2023C012**

PROJECT TITLE: Anchorage Senior Center Garage Addition

Date	Alaska Contractor's License Number
Company Name (Printed)	Employer's Tax Identification Number
Authorized Representative Signature	Printed Name & Title
Company **Mailing** Address	Company Phone Number
City, State, Zip Code	Company Fax Number
	Company Email Address

Company **Physical** Address
(if different from mailing address)

City, State, Zip Code

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we,_____
as Principal, and_____
_____a corporation organized under the laws of the_____
_____and authorized to transact surety business in the
State of Alaska, of_____
as Surety, and held and firmly bound unto the MUNICIPALITY OF ANCHORAGE, as Obligee, in the full and just sum of_____
_____($_____) Dollars, 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, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, the said Principal is herewith submitting its proposal for _____
_____

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

Signed, sealed, and delivered _____, 20_____.

WITNESS AS TO PRINCIPAL:

_____ _____
Contractor Name

_____
Contractor Signature

_____
(AFFIX CORPORATE SEAL) Corporate Surety

_____

_____
Surety Business Address

(AFFIX SURETY SEAL) By_____
(Attorney-In-Fact)

C O N T R A C T

Invitation to Bid No. **2023C_____**

Contract No. **C-2023_____**

NAME AND ADDRESS OF CONTRACTOR:

_____

_____

_____

Check appropriate box:

☒ **Incorporated in the State of**

MUNICIPALITY OF ANCHORAGE, acting through _____ (hereinafter the Owner).

Contract for _____

BID SCHEDULES	**ITEMS**	**PLAN SHEET FILE NUMBERS**	**AMOUNT**
			$ _____

Total Amount : $ _____

THIS CONTRACT, entered into by the MUNICIPALITY OF ANCHORAGE, ALASKA, acting through the Owner named above, and the individual, partnership, or corporation named above, hereinafter called the Contractor, WITNESSETH that the parties hereto do mutually agree as follows:

Statement of Work: The Contractor shall furnish all labor, equipment and materials and perform the Work above described, for the amount stated, in strict accordance with the Contract Documents.

CONTRACT DOCUMENTS

I. This CONTRACT consisting of 4 pages.

II. The Bid Proposal Section ___ consisting of ____ pages numbered as ____, **as contained in ITB 2023C_____.**

III. The Contract Performance and Payment Bond **_____.**

IV. The Contractor's Certificate of Insurance Dated **_____.**

V. Municipality of Anchorage Standard Specifications dated 2015 (MASS) Incorporated by Reference, **as contained in ITB 2023C_____.**

VI. Specifications consisting of the following:

Supplemental Provisions Section _____ consisting of _____ pages, with attachments Exhibit A through F, **as contained in ITB 2023C_____.**

VII. Equal Opportunity Special Provisions and Forms Section _____ consisting of _____ pages, **as contained in ITB 2023C_____.**

VIII. Disadvantaged/Women-Owned Business Enterprise (DBE/WBE) Specification Section _____ consisting of _____ pages, **as contained in ITB 2023C_____.**

IX. The Laborers' and Mechanics' Minimum Rates of Pay dated September 1, 2015 Section _____ consisting of _____ pages, **as contained in ITB 2023C_____.**

X. Submittal List Section _____ consisting of _____ page, **as contained in ITB 2023C_____.**

XI. The Drawings consisting of _____ sheets numbered _____, **as contained in ITB 2023C_____.**

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the Contract Date entered below.

MUNICIPALITY OF ANCHORAGE, ALASKA VENDOR _____

BY _____ BY _____
Signature Signature

_____
Printed Name

Purchasing Officer or designee _____ _____
Title Title

_____
Date of Signature

Date of Signature and Contract Date:

_____

CONTRACT AND PERFORMANCE AND PAYMENT BOND SIGNATURE INSTRUCTIONS

1. The full name and business of the Contractor shall be inserted on Page 1 of the Contract and on the Performance and Payment Bond, hereinafter the Bond.
2. Two copies of the Contract and the Bond shall be manually signed by the Contractor. If the Contractor is a partnership or joint venture, all partners or joint ventures shall sign the Contract and the Bond except that one partner or one joint venturer may sign for the partnership or joint venture when all other partners or joint venturers have executed a Power-of-Attorney authorizing one partner or joint venturer to sign. The Power-of-Attorney shall accompany the executed contract and the Bond.
3. If the Contractor is a corporation, the President of the corporation shall execute the Contract and the Bond unless a Power-of-Attorney or corporate resolution shall accompany the executed Contract and Bond.
4. The Bond shall be returned to the Purchasing Division undated. The Contract Date shall be inserted on the Contract when the Municipality signs the Contract and the Bond shall be dated the same as the Contract Date.

CONTRACT PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, That we _____ _____ of _____ as Principal, and _____ a corporation organized under the laws of the _____ _____ and authorized to transact surety business in the State of Alaska, of _____ as Surety, are held and firmly bound unto the MUNICIPALITY OF ANCHORAGE, as Obligee, in the full and just sum of _____ ($ _____) Dollars, lawful money of the UNITED STATES, for the payment which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION IS SUCH, that whereas the principal has entered into a certain contract dated the _____ date of _____ 20 _____, with the Obligee for the construction of _____

_____

which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract, and shall promptly make payments to all persons supplying labor and material in the prosecution of the work provided for in said contract, during the original term of said contract and any extensions of modifications thereof that may be granted by the Municipality, with or without notice to the Surety, then this obligation to be void; otherwise to remain in full force and effect.

This obligation is made for the use of said Obligee and also for use and benefit of all persons who may perform any work or labor or furnish any material in the execution of said Contract and may be sued on thereby in the name of said Obligee.

This said Surety, for the 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 anywise affect its obligations 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.

Whenever Principal shall be, and declared by Obligee to be in default under the Contract the Obligee having performed Obligee's obligations thereunder, the Surety may promptly remedy the default or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to Obligee for completing the Contract in accordance with its terms and conditions and upon determination by Surety of the lowest responsible bidder, or, if the Obligee elects, upon determination by Obligee and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Obligee and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price but not exceeding, including other costs and damages for which the Surety may be liable hereunder the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph, shall mean the total amount payable by Obligee to Principal under the Contract and any amendments thereto, less the amount properly paid by Obligee to Principal.

IN TESTIMONY WHEREOF, the parties hereunto have caused the execution hererof in _____ _____ original counterparts as of the _____ day of _____, 20_____.

WITNESS AS TO PRINCIPAL:

_____ _____

Principal Name

_____

Principal Signature

(AFFIX CORPORATE SEAL) _____

Corporate Surety

_____

_____

Surety Business Address

(AFFIX SURETY SEAL) BY: _____

(Attorney-In-Fact)

INSURANCE

By submitting a bid, the bidder agrees, if they are the successful bidder, to obtain and maintain the insurance required by this section. The bidder also agrees to provide the Municipality a copy of their Certificate of Liability Insurance prior to signing the contract and prior to commencement of any work under this contract.

GENERAL: The Contractor will not allow any subcontractor to commence work until the subcontractor has obtained insurance as listed in this section. The contractor and each subcontractor shall maintain this insurance throughout the life of this contract, including any maintenance and/or guarantee/warranty period. The contractor shall obtain separate insurance certificates for each contract.

ADDITIONAL INSURED: The Municipality of Anchorage shall be listed as an additional insured on all General and Auto Liability policies required by this contract. All policies shall contain a waiver of subrogation against the Municipality, except Professional Liability. All policies shall remain in effect during the life of the contract. The Contractors insurance certificate shall also indicate the Municipality of Anchorage as a certificate holder of the policy.

WORKERS COMPENSATION: The Contractor shall purchase and maintain during the life of this contract, workers compensation insurance for all employees who will work on this project and, if any work is sublet, the Contractor shall require the subcontractor similarly to provide such insurance. Employers' Liability with a minimum limit of $500,000 shall be maintained and Workers Compensation with minimum limits as required by Alaska State Workers Compensation Statutes. The policy shall contain a waiver of subrogation against the Municipality.

NOTICE TO "OUT-OF-STATE" CONTRACTORS WORKING IN ALASKA: The Contractor shall provide evidence of Workers Compensation insurance, either State of Alaska Workers Compensation coverage or an endorsement to the Contractor's home state Workers Compensation policy, evidencing coverage for "other states" including Alaska, prior to execution of a contract or, if approved, before commencement of contract performance in Alaska.

GENERAL LIABILITY: The Contractor shall purchase and maintain, in force, during the life of this contract such general liability insurance as shall protect the Owner and the Contractor against losses which may result from claims for damages for bodily injury, including accidental death, as well as from claims for property damages which may arise from any operations under this contract whether such operations be those of the Contractor, a subcontractor or anyone directly or indirectly employed by either of them.

Commercial General Liability	**Minimum Limits**
Products/Completed Operations	$2,000,000
Personal & Advertising Injury	$1,000,000
Each Occurrence	$1,000,000
General Aggregate	$2,000,000
Medical Payments	$5,000
Commercial Auto Liability	**Minimum Limits**
Combined single limit (Bodily Injury and Property Damage)	$1,000,000
Including all owned, hired, and non-owned	
Workers Compensation and Employers Liability	**Minimum Limits**
Per Alaska statute	$500,000
Errors and Omissions	**Minimum Limits**
Professional Liability (Not required unless limits appear in space provided)	
Umbrella Liability	**Minimum Limits**
(Not required unless limits appear in space provided)	
$ _____ S.I.R.	

Each insurance policy required by this section shall require the insurer to give advance notice to the MOA/Contract Administrator prior to the cancellation of the policy. IF the insurer does not notify the MOA upon policy cancellation, it shall be the Contractor's responsibility to notify the MOA of such cancellation.

COMPLIANCE WITH LAWS

The Contractor shall observe and abide by all applicable laws, regulations, ordinances and other rules of the State of Alaska and/or any political subdivisions thereof, or any other duly constituted public authority wherein work is done or services performed, and further agrees to indemnify and save the Municipality of Anchorage harmless from any and all liability or penalty which may be imposed or asserted by reason of the Contractor's failure or alleged failure to observe and abide thereby.

(Remainder of Page Initially left Blank)

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C,
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	☐ ☐ CLAIMS-MADE ☐ OCCUR						MED EXP (Any one person)	$
	☐						PERSONAL & ADV INJURY	$
	☐						GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO - ☐ LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ **UMBRELLALIAB** ☐ OCCUR						EACH OCCURRENCE	$
	☐ **EXCESS LIAB** ☐ CLAIMS-						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ WC STATU-TORY LIMITS ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE ☐ N / A						E.L. EACH ACCIDENT	$
	OFFICER/MEMBER EXCLUDED? (**Mandatory in NH**) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

1. The Municipality of Anchorage is an additional insured on Auto and General Liability policies. All policies, including workers compensation, contain a WAIVER OF SUBROGATION against the Municipality, except Professional Liability, .
2. CANCELLATION: "Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the Policy Provisions."

CERTIFICATE HOLDER	CANCELLATION
	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	Authorized Representative

CERTIFICATE OF COMPLIANCE

ANCHORAGE SENIOR CENTER GARAGE ADDITION

I (WE) HEREBY CERTIFY THAT ALL WORK HAS BEEN PERFORMED AND MATERIALS SUPPLIED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND CONTRACT FOR THE ABOVE WORK, AND THAT:

A. Not less than the prevailing rates of wages as ascertained by the governing body of the contracting agency has been paid to laborers, workmen, and mechanics employed on this work:

B. There have been no unauthorized substitutions of subcontractors' nor have any subcontractors been entered into without the names of the subcontractors have been submitted to engineer prior to the start of such subcontracted work.

C. No subcontract was assigned or transferred or performed by any subcontractor other than the original subcontractor, without prior notice having been submitted to the engineer together with the names of all subcontractors.

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

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

_____ _____

(Date) (Contractor)

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____ 2023

STATE OF ALASKA)
) ss
THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 20___, before me, the undersigned, a Notary Public in and for the State of Alaska, personally appeared _____, known to me to be the individual named in the foregoing instrument, and he/she acknowledged to me that he/she executed the foregoing instrument as a free act and deed for the uses and purposes therein stated.

WITNESS my hand an official seal this day and year in this certificate first above written.

_____
Notary Public in and for Alaska
My commission expires: _____

MUNICIPALITY OF ANCHORAGE
STANDARD SPECIFICATIONS-BUILDINGS

(MASSB)
GENERAL CONDITIONS
SECTION 00 72 13
INDEX

GENERAL CONDITIONS
SECTION 00700

SECTION 00 72 13.01 DEFINITIONS

In these Contract Documents, the following words or expressions shall have the meaning given below:

AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
ANSI	-	American National Standards Institute
API	-	American Petroleum Institute
APWA	-	American Public Works Association
ASA	-	American Standard Association
ASHRAE	-	American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc.
ASTM	-	American Society for Testing and Materials
AWS	-	American Welding Society
AWWA	-	American Water Works Association
IBC	-	International Building Code
ICBO	-	International Conference of Building Officials
IEEE	-	Institute of Electrical and Electronics Engineers
IFC	-	International Fire Code
IMC	-	International Mechanical Code
ISO	-	Insurance Service Office
IPC	-	International Plumbing Code
MASS	-	Municipality of Anchorage – Standard Specifications
MASSB	-	Municipality of Anchorage – Standard Specifications/Buildings
NEC	-	National Electrical Code
NEMA	-	National Electrical Manufacturer's Association
NESC	-	National Electrical Safety Code
NFC	-	National Fire Code
NFPA	-	National Fire Protection Association
OSHA	-	Occupational Safety and Health Act

Addendum (Addenda) - Written or graphic communications issued prior to the execution of the Contract that modify or interpret the Bidding Documents and become part of the Contract Documents upon execution of the Contract.

Additional Work - Work not specifically provided for in the Contract as awarded but which is consistent with the original Scope of Work and for which a price for similar work is provided in the Contract.

Alternate – A defined portion of the work that is priced separately and provides options in the final scope of the project.

Architect/Engineer – The author and interpreter of the Contract Documents.

Assembly - The Anchorage Assembly of the Municipality of Anchorage.

Beneficial Occupancy Date - The date, established by the Owner's Representative, when construction is sufficiently completed in accordance with the Contract Documents and the Owner occupies or utilizes the Work, or a designated portion thereof, for the use for which it is intended.

Bid Proposal - The written proposal of the Bidder, on the form furnished, for the Work contemplated.

Bidder - Any individual, firm, partnership, corporation, or combination thereof formally submitting a Bid for the Work contemplated and acting directly or through an authorized representative.

Bidding Documents - The Invitation to Bid, Instruction to Bidders, Bidders Check List, Bid Forms, Contract Forms, Contract Conditions, Supplementary Conditions, Technical Specifications, Construction Drawings, and all Addenda.

Bid Guarantee - The security furnished by the Bidder as a guarantee to enter into a Contract for the Work contemplated if the Bidder is awarded the Contract.

Change Order/Request for Proposal – A written proposal prepared by the Contractor describing and documenting added costs or time extensions that the Contractor feels have been incurred due to unforeseen work and other matters not contemplated or adequately provided for in the Contract Documents.

Change Order/Contract Amendment - A written agreement entered into between the Contractor and the Owner to amend the Contract Documents or to otherwise provide for unforeseen work and other matters not contemplated or adequately provided for in the Contract Documents.

Contract - The four- (4-) page form agreement entitled "Contract" executed by the Contractor and then by the Owner on behalf of the Municipality. The Contract represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, or agreements, either written or oral.

Contract Completion Date - The calendar date specified in the proposal for the full completion of all Work required by the Contract Documents, except as otherwise provided in the Contract.

If a number of calendar days is specified in the proposal for the completion of the Contract, the Contract Completion Date will be the specified number of days after the effective date of the Notice to Proceed, including authorized time extensions.

Contract Documents - The Contract and those documents described in page 2 of the Contract. The Contract Documents can only be amended by written Change Order. Instructions, clarifications, and directives issued by the Owner's Representative under Article 5.1 are not Contract Documents.

Contract Item (Bid Item, Pay Item) - A specifically described unit of Work for which a price is provided in the Contract.

Contractor - The individual, firm, corporation, partnership, or joint venture executing the Contract and performing the Work under the terms of the Contract Documents or, where applicable, the designated subcontractors or the employees of the individual, firm, corporation, partnership, or joint venture.

Days -

Calendar: Unless otherwise designated in the Supplementary Conditions, days as used in the Contract Documents are consecutive calendar days.

Working: A working day is defined as any day on which the Contractor is required to work by the Contract Documents or any other day not otherwise defined herein as a nonworking day.

Nonworking: A nonworking day is defined as Sunday, a recognized holiday, a day on which the Contractor is specifically required by the Supplementary Conditions to suspend construction operations, or a day on which a suspension order is in effect. Recognized holidays shall be: New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day. When any of the above days falls on a Saturday, the preceding Friday shall be counted as a holiday. When any of the above days falls on a Sunday, the following Monday shall be counted as a holiday.

Drawings - Graphic and textural information organized for the purpose of conveying data regarding design intent and construction requirements and listed and referred to on page 2 of the Contract.

Extra Work - Work not within the original Scope of Work but which is determined by the Owner's Representative to be essential for the satisfactory completion of the Contract.

Final Acceptance Date - The date on which the Work in its entirety has been constructed, inspected, accepted, and a Certificate of Completion issued, pursuant to the provisions of Article 5.27 - Final Inspection.

Furnish – To purchase and deliver to the Project.

Indicated - Shown on the Drawings, noted on Drawings, specified, or a combination thereof.

Inspector - The authorized representative of the Owner assigned to observe the Work.

Install – To set in place and make usable.

Liquidated Damages - The amount prescribed herein to be paid to the Owner, or to be deducted from any payments due or to become due the Contractor, for each day's delay in completing the whole or any specified portion of the Work beyond the time allowed in the Contract or as extended by the Change Order.

Municipality – The Municipality of Anchorage.

New Material and Equipment – Equipment and material that has not previously been used and is in production.

Necessary - Needed, as reasonably inferred from the Contract Documents, in order to make the Work complete and available for use.

Notice to Proceed - The written communication issued by the Owner to the Contractor authorizing the latter to proceed with the Work and that identifies the Owner's Representative and establishes the time of commencement and date of completion.

Notice-to-Resume - The written notice issued by the Owner's Representative that terminates a period of suspension of Work, reinstates the counting of Contract time, and requires the Contractor to resume Contract Work.

Or Equal - Whenever a material, article, or piece of equipment is identified on the Drawings or in the Project Manual by reference to manufacturers' or vendors' names, trade names, or catalog numbers, it is intended merely to establish a standard; and any material, article, or equipment of other manufacturers and vendors that will perform in an equal or better manner the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed will not require a change in the related work and is, in the opinion of the Owner's Representative, of equal or better substance and function.

Owner - The Department or Agency of the Municipality of Anchorage identified in page one (1) of the Contract. "Owner" does not include those Municipal employees, such as the Building Official and the Fire Marshal and their staffs, who enforce certain building, health and safety, and fire codes.

Owner's Representative – The person authorized to act on the Owner's behalf.

Performance and Payment Bond - The form of security, approved by the Municipality, that is furnished by the Contractor and the Contractor's Surety, guaranteeing the complete and faithful performance of all the obligations and conditions placed upon the Contractor by the Contract.

Product Data - Brochures, illustrations, diagrams, and other information prepared by the manufacturer and furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

Project - The total construction of which the Work performed under the Contract Documents may be the whole or a part.

Project Manual - The bound information that includes the bidding requirements, contract conditions, contract forms, and technical specifications.

Provide – To furnish, install, and/or to perform all work necessary to complete the Work.

Purchasing Officer - That person within the Municipality of Anchorage who is vested under the Anchorage Municipal Code with all authority pertaining to the procurement of supplies, services, and construction prior to execution of the Contract.

Request For Information (RFI) – A written document prepared by the Contractor to request information, clarification or deviation to the Contract Documents. Each RFI shall be numbered consecutively and a log maintained of submittals and responses.

Record Drawings – Detailed drawings that accurately depict all changes in location (both horizontal and vertical), material, equipment, and other elements of Work accomplished by the Contractor.

Samples - Physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work or a product will be judged.

Shop Drawings - All drawings, diagrams, illustrations, schedules, and other data that are prepared by the Contractor, a Subcontractor, a manufacturer, a supplier, or a distributor and which illustrate the equipment, material, or some portion of the Work.

Street Closure - Any action that renders one or more lanes of a street unusable to vehicular traffic.

Subcontractor - Any individual, firm, corporation, partnership or joint venture acting for or on behalf of the Contractor in the performance of a part of the Contract. This does not include those working for hire or suppliers of material or equipment.

Substantial Completion Date - The date upon which the improvements that are the subject matter of the Contract have been inspected and, in the opinion of the Owner's Representative, are essentially completed and available for the Owner's beneficial use for the purpose and in the manner intended by the Contract Documents, and all required testing and inspections have been satisfactorily completed.

Supplementary Conditions - That portion of the Project Manual entitled Supplementary Conditions that modify and expand the General Conditions and set forth conditions or requirements unique to the Project.

Surety - The Company or Association that is bound with and for the Contractor for the acceptable performance of the Contract and for the payment of all obligations arising out of the Contract. Regarding the Bid Guarantee, "Surety" refers to the Company or Association that will forfeit the sum of the Guarantee when the Bidder fails to execute the Contract after the Bid is accepted by the Municipality.

Technical Specifications - Divisions 1 through 49 of the Project Manual that define the qualitative requirements for products, materials, and workmanship.

Time and Material Work - Work performed by the Contractor at the written direction of the Owner's Representative for which no item is provided in the Contract and for which no unit price or lump sum basis can be agreed upon.

Unit Prices – A cost quoted by a bidder for a single, specified unit of work. Unit prices may be additive and/or deductive.

Utility Company - The person, corporation, company, agency, or other entity that furnishes service through, operates, or owns a conduit, pipe, wire, cable, or other transmission line for the purpose(s) of petroleum and petroleum products, electricity, sanitary sewer, communications, steam, water, natural gas, and storm sewer.

Winter Suspension - The period of time during which no fieldwork is accomplished due to adverse winter weather conditions as permitted by Article 5.25 – Suspension of Work

Work - Work shall mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient for the successful completion of all the duties and obligations imposed by the contract.

Working Titles – Working titles that are adjectives or have masculine genders such as "workman" and "flagman" or are pronouns such as "he," "his," and "him" are used in the Contract Documents for the sake of brevity and are intended to refer to persons of either gender.

Written Notice - A written communication delivered in person to the individual or to a member of a firm, to an officer of a corporation, or to a representative of an agency for whom it is intended, or sent by mail to the business address stated in the Contract Documents.

SECTION 00 72 13.02 BIDDING REQUIREMENTS AND CONDITIONS

Article 2.1 Examination of Bidding Documents and Site

The Bidder shall examine carefully the site of the proposed Work and the Bidding Documents before submitting a Bid. By submitting a Bid, the Bidder acknowledges 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 of the Bidding Documents.

The Municipality 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 Contract, unless such understanding or representations are expressly stated in the Bidding Documents or Addenda.

When soil boring data are provided by the Bidding Documents, the Bidder shall assume responsibility for any conclusions the Bidder may draw from such data. The bidder shall be responsible for obtaining and analyzing such additional data as the bidder may require and shall be responsible for conclusions drawn from that information.

By submitting a bid, the Contractor declares that the Contractor has carefully examined the contract documents, that the Contractor has full knowledge thereof, and that the Contractor has investigated the site and satisfied himself as to the conditions affecting the Work, including, but not limited to, those bearing upon transportation, disposal, handling, and storage of materials; availability of labor, water, electrical power, and roads uncertainties of weather; physical conditions at the site including all existing utilities, the conformation and conditions of the ground, and the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor further declares that the Contractor is satisfied as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all prior exploratory work, as well as from information presented by the drawings and specifications made a part of this contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

The Bidder shall comply with the requirements of the Equal Opportunity Special Provisions as contained in the Bid and resulting Contract.

Article 2.2 Interpretation or Correction of Bidding Documents

Bidders shall notify the Purchasing Officer promptly of any error, omission, or inconsistency that they discover during examination of the Bidding Documents and the proposed construction site.

Bidders shall request interpretation or clarification of the Bidding Documents in writing to the Purchasing Officer. The Purchasing Officer will consider requests that arrive at least seven (7) working days prior to the date for opening Bids. The Contractor may present oral questions at a pre-bid conference if one is provided for in the Bidding Documents. The Purchasing Officer will issue interpretations, corrections, or changes, if any, to the Bidding Documents 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.

Article 2.3 Preparation and Submission of Bids

Bidders shall submit manually signed Bid Proposals on forms furnished and shall submit Bids in a sealed envelope addressed as indicated in the Invitation to Bid, plainly marked with the Invitation Number.

Bidders shall quote on all items, unless specifically allowed otherwise by the Invitation to Bid. Failure to do so will disqualify the Bid. When quotations on all items are not required, Bidders shall insert the words “no bid” in the space provided for any item where no quotation is made. The person signing the bid shall initial every erasure or change made to the Bid Proposal forms, if any.

Contractor shall provide a lump sum price, typed or written in ink, for each bid item called for. The bid shall be submitted in both words and figures. If there is a discrepancy between the written words and figures, the written words will govern. In case of error in the extension of prices, the price for each bid item will govern. The Purchasing Officer may reject Bids that 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.

Article 2.4 Bid Guarantee

Bidders shall accompany each Bid with a certified check, cashier’s check, or Bid Bond, in the amount of ten percent (10%) of the total amount of the Bid, if the total amount of the bid is $100,000 or more, with surety acceptable to the Municipality. If the total bid amount of the bid is less than $100,000, accompany the bid with a bid guarantee, in the form specified above, in an amount of $1,000. Bid Guarantees for the three (3) low Bidders will be held until the Contract is executed. All other Bid Guarantees will be returned within seven (7) days of the bid opening. Bidders shall submit Power-of-Attorney for the person signing the Bid Bond for the Surety.

SECTION 00 72 13.03 AWARD AND EXECUTION OF CONTRACT

Article 3.1 General

The provisions of Section 00700.03 are intended to be supplemental to, and not to replace, Title 7 of the Anchorage Municipal Code.

Article 3.2 Receipt and Opening of Bids

Submit bids to the Purchasing Officer or his designated representative at the Municipal Purchasing Department prior to the time of opening specified in the Invitation to Bid. The Purchasing Officer or his designated representative will record the exact date and time of receipt of Bids. The Purchasing Officer will not consider late Bids but will hold them unopened until the time of award and then return them to the Bidder unless other disposition is requested or agreed to by the Bidder. The Time of Bid receipt will be determined by the time stamp of the Municipal Purchasing Department.

The Purchasing Officer will not consider facsimile bids; however, he will consider facsimile modifications of bids already submitted in writing if the facsimiles are received prior to the time of bid opening fixed in the Invitation to Bid. Facsimile modifications shall not reveal the amount of the original or revised bid. Modifications shall state a plus or minus to the affected bid item.

No liability will attach to the Municipality for the premature opening of or the failure to open a Bid not properly addressed and identified.

The Contractor may withdraw bids by written request prior to the time specified for bid opening in the Invitation to Bid.

If any one party offers more than one Bid, by or in the name of his clerk, partner, or other person, the Purchasing Officer will reject all such Bids. A party who has quoted prices to a Bidder is not thereby disqualified from quoting prices to other Bidders or from submitting a Bid directly for the Work.

Article 3.3 Bidder Qualifications

The Purchasing Officer reserves the right to determine whether a Bidder is a responsible contractor. The Purchasing Officer may require the Bidder to submit such information as he may deem necessary to determine a bidder's responsibility. Failure or refusal on behalf of the Bidder to submit the required information, in whole or in part, may be grounds for the purchasing Officer to determine the Bidder as non-responsible.

The Purchasing Officer will determine whether a Bidder is responsible on the basis of any or all of the following criteria:

1. The skill and experience demonstrated by the Bidder in performing contracts of a similar nature;

2. The Bidder's record for honesty and integrity;

3. The Bidder's capacity to perform in terms of facilities, personnel, and financing;

4. The Bidder's past performance under Municipal contracts. If the Bidder has failed in any material way to perform his obligations under any contract with the Municipality, the Bidder may be determined as a non-responsible Bidder.

A Bidder's representations concerning his qualifications will be construed as a covenant under the Contract. Should it appear that the Bidder has made a material misrepresentation, the Owner will have the right to terminate the Contract for the Contractor's breach, and the Owner may then pursue such remedies as provided in the Contract Documents or as provided by law or equity.

Any determination that a Bidder is non-responsible will be made by the Purchasing Officer. The Purchasing Officer will make such determination in writing to the Bidder setting forth the reasons for such determination and the Bidder's right to request a review of this determination by the Bidding Review Board.

If a Contractor has had a contract terminated by the Owner for cause as provided in Article 5.29 – Termination of Contract by Owner, the Contractor may not be allowed to bid on the owner's future contracts for a period of two (2) years. This two- (2-) year period shall commence from the date of the termination of the Contractor by the Owner.

All bidders shall hold a valid Alaska Contractor’s license per Alaska Statute AS 08.18.

Article 3.4 Action on Bids

The Municipality reserves the right to reject any and all Bids and to waive any informalities and irregularities in a Bid or during award of the Contract.

The Municipality may reject any bid which is unbalanced if it is in the best interest of the Municipality to do so. A bid is unbalanced when, in the opinion of the Purchasing Officer, it allocates a disproportionate share of costs or profit, or both, to the price of one (1) or more items of Work and reduces the share of costs or profit, or both allocated to the price of another item or items of Work, and if there is a reasonable possibility that the bid will not result in the lowest overall cost of the Work to the Municipality.

Unless otherwise stated in the Bidding Documents, the Municipality will award the Contract, if any, to the responsible Bidder who submits the low responsive Bid. When the Bidding Documents contain a basic bid and alternates, the Purchasing Officer will use the total of the basic bid plus the alternatives he selects to determine the low Bidder.

When the Bidding Documents contain a basic bid and additive alternates, the Purchasing Officer will determine the low Bidder by the lowest combination of the basic bid and as many additive alternates as the Purchasing Officer selects within the funds available. The Purchasing Officer will select, in most cases, additive alternates in the order listed in the Bid. However, the Purchasing Officer may bypass any additive alternate whose selection would cause the Contract to exceed the funds available. The Purchasing Officer will compare all bids based upon the same combination of basic bid plus selected additive alternates.

When the Bidding Documents contain deductive alternates, the Purchasing Officer will determine the low Bidder by the lowest basic bid. If the lowest basic bid exceeds the funds available, the Purchasing Officer will determine the low Bidder by eliminating deductive alternates in the order listed in the Bid until the award can be made within the available funds. The Purchasing Officer may bypass any deductive alternate to maximize the use of available funds. The Purchasing Officer will compare all bids based upon the same combination of basic bids and selected deductive alternatives.

The amount of the Contract 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 Officer and specified on page one (1) of the Contract.

The Purchasing Officer will give a written, signed Notice of Award or rejection within forty-five (45) days of Bid opening. The notice will be in writing and signed by the Purchasing Officer. A Notice of Award, and no other act of the Municipality or its representatives, constitutes an acceptance of a Bid. The acceptance of a Bid shall bind the successful Bidder to execute the Contract.

Article 3.5 Bonds and Insurance

If the amount of the contract is $100,000 or more, the successful Bidder shall furnish the Purchasing Officer a Performance and Payment Bond in the full amount of the Contract and shall maintain the Bond in force during the continuance of this Contract including the one- (1-) year warranty period. For projects less than $100,000, the requirement for Performance and Payment Bond is deleted. The Bond shall be for the faithful performance of this Contract 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 Contract Documents may be made without securing the consent of the Surety or Sureties. The bond shall be with a good and sufficient corporate surety acceptable to the Municipality and a Power-of-Attorney for the person signing the Bond for the Surety must be submitted with the Bond.

The successful Bidder shall furnish the Purchasing Officer with a certificate of insurance pursuant to the provisions of Article 6.9

The Bidder shall exercise positive efforts to comply with the Equal Employment Opportunity policies of the Municipality of Anchorage. The Bidder shall familiarize him/herself with the Equal Opportunity Special Provisions for Municipal Contracts, including submittal requirements for bids, prior to award and after award.

Article 3.6 Execution of Contract

The Bidder whose Bid is accepted shall execute the Contract and furnish the required bonding and insurance within five (5) working days after Notice of Award of the Contract is issued.

The Municipality will consider the Contract executed by the successful Bidder when two (2) copies of the Contract, signed by an authorized representative of the Contractor, and the required bond and insurance certificate are received by the Purchasing Officer. Failure or neglect of the Contractor to execute the Contract within the time specified may result in a forfeiture of the Bid Guarantee and award of the Contract to the next lowest Bidder.

The Owner will execute the Contract within ten (10) working days after execution by the Contractor as set forth above. The date the Contract is executed by the Owner is the Contract Date. The rights and obligations provided for in the Contract shall become effective and binding upon the parties as of the Contract Date.

The Municipality will supply the Contractor with four (4) sets of the Contract Documents. The Contractor may obtain any additional documents required from the Architect/Engineer by compensating the Owner for the cost of the printing.

The Municipality will issue the Notice to Proceed within seven (7) working days after the Contract Date unless otherwise specified in the Supplementary Conditions. The effective date of the Notice to Proceed shall be within ten (10) working days of the Contract Date. The Municipality will designate the Owner’s Representative, and calculate or identify the completion date in the Notice to Proceed.

Article 3.7 Contractor's Warranty

The Contractor shall warranty all materials and workmanship for one (1) year from the Final Acceptance Date except when a different period is identified in the Supplementary Conditions. Under this warranty, the Contractor shall promptly remedy, without cost to the Owner, any and all defects in material and workmanship, including any consequential damages resulting from defective materials or workmanship.

All warranty work shall be subject to the same contract provisions, including materials, quality of work, authority of the Owner's Representative and inspection, as provided for in the original work; however, all such work shall be at the sole cost of the Contractor. If the defect, in the opinion of the Owner's Representative, is of such nature as to demand immediate repair, the Owner has the right to take corrective action, and the Contractor shall bear the cost thereof. If the contract includes work in different geographic locations, then the Municipality may accept the work in one location and may begin the warranty period for that location independently of the completion of the work in the other locations.

SECTION 00 72 13.04 SCOPE OF WORK

Article 4.1 Intent of the Contract Documents

The intent of the Contract Documents is to provide for the execution and completion of the Work in its entirety. Except as otherwise specifically provided herein, the Contractor shall provide all permits, transportation, handling, materials storage, labor, tools, implements, machinery, supplies, water, heat, utilities, cleaning supplies and activities, and incidentals and shall do all things necessary to perform and to complete the Work.

When words that have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such words shall be interpreted in accordance with that meaning.

Reference to Standard Specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest Standard Specification, manual, code or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated.

However, no provisions of any referenced Standard Specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the respective duties and responsibilities of the Owner, the contractor, or the Owner's Representative nor any of their consultants, agents, or employees from those set forth in the Contract documents.

With reference to the Drawings, the order of precedence is as follows:

1. Figures (numerals) govern over scaled dimensions.

2. Detailed Drawings govern over general Drawings or standard details.

Article 4.2 Interpretation of Contract, Specifications, and Drawings

The Contract Documents are intended to be complementary and to describe and provide for a complete description of the entire scope of Work. A requirement occurring in one section of the Contract Documents is as binding as though occurring in all.

In cases of conflict in the requirements of the Contract Documents, such conflicts shall be reconciled by the acceptance of the following order of precedence for the various Contract Documents: (1) the Contract; (2) the Bid Proposal; (3) Supplementary Conditions; (4) the Technical Specifications (Division 1 through Division 16); (5) the Drawings; (6) the General Conditions (Section 00700); and (7) standards incorporated by reference in any of the above.

Where the Technical Specifications and Drawings are silent or lack detail, the Contractor shall use the best general practice and approved material and workmanship of first quality.

The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner's Representative any error, inconsistency, or omission he may discover, including any requirement that may be contrary to any law, ordinance, rule, regulation, or order of any public authority bearing on the performance of the Work.

The Contractor shall take no advantage of any errors or omissions in the Contract Documents or of any discrepancies within them. Contractor shall assume all risk and expense when knowingly performing Work where such error or omission is not called to the attention of the Owner's Representative.

The Contractor shall accompany all requests for interpretation or clarification of the Contract documents with a completed Request For Information (RFI) form. Each request shall clearly and completely state the basis for lack of clarity in the Contract documents and shall refer to the applicable specifications, drawings, and details that give rise to the request. If not provided in the Contracts Documents, the Contractor shall obtain a copy of the RFI form from the Owner's Representative. The Owner's Representative will respond to the RFI in writing within ten (10) working days.

Article 4.3 Changed Conditions

The Contractor shall promptly, within two (2) working days and before such conditions are disturbed, notify the Owner's Representative in writing of: (1) subsurface conditions or otherwise concealed conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The Owner's Representative will promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of this contract, the Municipality will make an equitable adjustment and modify the contract in writing accordingly.

The Owner's Representative will not allow a claim under this clause unless the Contractor has given the notice required above. However, the Owner's Representative may extend the time prescribed for completion of Work. Reference Article 5.21 – Changes in the Work.

The Contractor shall not submit a claim for an equitable adjustment hereunder after the date of final payment under this contract.

If the parties are unable to agree on the terms of an equitable adjustment, the Owner's Representative may order such work done and pay for such work as provided in Article 5.21 – Changes in the Work and allow such additional time for performance as he may deem proper. If the Contractor does not agree with such adjustments, he may make claim under Article 5.22, Claims for Additional Compensation.

Article 4.4 Temporary Utilities

The Contractor shall provide and pay all costs for temporary utilities, including gas, water, sanitary sewer, telephone, and electricity, necessary to perform the Work. The Contractor shall pay for these costs during periods of suspensions of work. The Owner does not represent that utility service is available to the site.

The Contractor shall provide temporary heat, including fuel and power, as required to protect materials and Work from the elements. The Contractor shall provide and maintain temporary toilets and shall provide drinking water for all those connected with the Work.

Article 4.5 Surveying

Before starting Work, the Contractor shall locate all general reference points and take such steps as are necessary to prevent their dislocation. If disturbed, the Contractor shall replace reference points as directed by the Owner's Representative. The Contractor shall employ a competent Land Surveyor, licensed in the State of Alaska, to lay out the Work, and shall be responsible for its accuracy.

Article 4.6 Disposal Sites

Except as otherwise stated in the Supplementary Conditions, the Contractor shall make his own arrangements and assume all costs in connection with disposal sites. The Contractor shall furnish a disposal site for trees, brush, outsized boulders, and other objectionable debris. The Contractor shall dispose of unusable excavation at either the Anchorage Regional Landfill off Hiland Road or at a Contractor-furnished disposal site. Unusable excavation or any material containing stumps, brush, or other construction debris will be charged at the current disposal fee at the Anchorage Regional Landfill. The Contractor shall obtain and comply with a grading and fill permit for each disposal site he furnishes, in conformance with the most current International Building Code (IBC), as adopted and amended by the Municipality of Anchorage. Contractor shall locate and maintain the disposal site in such a manner as to prevent a public nuisance.

The Contractor shall obtain written permission from the property owner(s) for such disposal sites and shall furnish the Owner's Representative with a copy of this permission and a Municipal Grading and Fill Permit. The written permission shall specifically provide that the property owner will not hold the Municipality, its employees, agents, or consultants liable for use of or damage to this property. The Contractor shall be held liable for any trespass and property damage incurred outside of the disposal site.

Waste Disposal. Prior to construction, the Contractor shall submit a description of his scheme for disposing of unsuitable materials and waste resulting from the Work under this Contract. If any material is disposed of in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed areas.

Article 4.7 Protection of Persons and Property

The Contractor shall be responsible for initiating, supervising, and maintaining of all safety programs and precautions in a manner to prevent damage, injury, or loss to the Work employees, the public, and property. These safety requirements are applicable to the Work whether on-site or off the site for Work under the control, custody, or care of the Contractor. These responsibilities include adjacent sites and their improvements including landscaping, walks, roadways, structures, and utilities. If the Contractor encounters material on the site that may be reasonably identified as asbestos-containing material (ACM), polychlorinated biphenyl (PCB), or other hazardous materials not requiring abatement as part of the Work, the Contractor shall stop the Work immediately in the affected area and notify the Owner's Representative and Owner in writing. The Work shall not be resumed in the affected area until a final determination has been made by the Owner's Representative on the status of the material in question.

The Contractor shall be solely and continuously responsible, twenty-four (24) hours per day, seven (7) days per week, until contract completion for the safety measures outlined above and the following:

(a) Erecting and maintaining, as required by existing conditions and progress of work, all safeguards for safety and protection, including barricades, danger signs, traffic control devices, and other warnings against hazards.

(b) Providing reasonable access at all times for emergency units such as the Anchorage Police Department, the Anchorage Fire Department, and the Anchorage Fire Department's Hazardous Materials Response Team.

During periods of suspension of work, refer to Article 5.25 – Suspension of Work, for areas of responsibilities.

Protection of Water Resources. The Contractor shall control the disposal of fuels, oils, bitumens, calcium chloride, acid, or harmful materials, both on and off the premises, and shall comply with applicable federal, state, and municipal laws concerning pollution of waterways while performing Work under this Contract. Special measures shall be taken

to prevent chemicals, fuels, oils, greases, bituminous materials, and sewage from entering established drainages.

Article 4.8 Public Convenience and Access

The Contractor shall conduct the Work in such a manner as to cause minimum inconvenience to pedestrians and vehicular traffic and to persons conducting commercial enterprises or residing along the route of Work. The Contractor shall not block entrances or driveways for more than three (3) hours without prior approval of the Owner's Representative. The Contractor shall provide and maintain temporary pedestrian bridges, ramps, or culverts at entrances of adequate width and strength for the service required. All work involved in providing for construction, maintenance, and use of entrances and driveways is the responsibility of the Contractor and will not be paid for separately and will be considered incidental to the lump sum and prices contained in the Contract Documents. It is the Contractor's responsibility to provide adjacent property owners and/or tenants with written notification of closure of access and to provide an Owner's Representative-approved alternative access at all times for the property owners, the tenants, and the public no less than forty-eight (48) hours prior to closure.

The Contractor shall be responsible for maintaining access at all times for emergency vehicles.

The Contractor shall, prior to the commencement of Work, submit any written agreements between the Contractor and property owners regarding access and use of private property within the project limits for any purposes associated with this Project. Any such agreements shall indemnify the Municipality from any and all actions that result from activities of the Contractor

If the Work of the Contractor is delayed because of any construction activities or transportation activities related to nearby construction, whether municipal or private projects and regardless of whether the activities were authorized by the Owner, the Contractor is not entitled to additional compensation from the Owner but will be entitled to an extension of time to the extent that such delay is unavoidable through reasonable efforts on the Contractor's part. Except as to a possible entitlement to such an extension of time, the Contractor shall hold harmless, defend, and indemnify the Owner from and against any and all claims, damages, losses, and expenses, including attorneys' fees, by the Contractor or third parties, arising directly or otherwise out of the construction and/or transportation activities as indicated above.

Article 4.9 Street Closures

The Contractor shall conduct construction operations so as to offer the least interference to vehicular traffic. Provide vehicular access to emergency units to and through all work areas at all times. Do not close two (2) adjacent parallel streets at the same time.

The Contractor shall submit requests for all street closures or partial closures to the Owner's Representative and the Municipal Permit Office and will not commence closures

or partial closures until the Owner's Representative and the Permit Office issue approvals.

In the case of arterial street closures, do not commence street closures or partial street closures until after giving forty-eight- (48-) hours advanced notice to the public.

Prepare and submit four (4) copies of an acceptable Traffic Control Plan (TCP) to be employed during construction. Deliver the TCP to the Owner's Representative within ten (10) days of the effective date of the Notice to Proceed, or five (5) working days before commencement of Work, whichever is the earlier date. The Owner's Representative will review and accept or reject the plan within five (5) working days of submission. Successive submittals will also be reviewed within five (5) working days.

The TCP shall conform to the standards in the latest edition of the Municipality of Anchorage Standard Specifications (MASS), Part VI of the Manual of Uniform Traffic Control Devices (MUTCD), and shall also conform to the requirements in the latest edition and supplements of the Alaska Traffic Manual (ATM). When conflict exists between MASS and the ATM, the requirements of MASS and these General Conditions shall govern.

Article 4.10 Maintenance and Drainage

The Contractor will maintain all detour routes, haul routes, streets under construction, ditches, water courses, existing drainage patterns, siltation controls, gutters, sidewalks, walkways, and bike trails affected by the Work until the Final Acceptance Date. This includes but is not limited to shaping, grading, and dust control. The Contractor will maintain existing drainage patterns disturbed as a result of construction, including reestablishment of drainage ditches, swales and gutter flow lines to their preconstruction condition, grade, and elevation.

When cleaning paved streets, curb and gutters, and alleys and sidewalks, the Contractor shall not flush the streets using only water but shall use such methods as established by the Director of Health and Human Services for sweeping operations. The Contractor shall prevent any spillage from entering any storm drains.

The Contractor shall restore all streets, drainage ditches, swales, water courses, gutters, sidewalks, walkways, and bike trails used by the Contractor or interrupted by his Work to their preexisting condition. The Contractor shall construct and maintain any drainage and siltation control necessary to accommodate water released by pumping or dewatering operations and contain the water to prevent inconvenience to pedestrian and vehicular traffic.

The Contractor shall repair or replace any culverts, swales, catch basins, or storm drains damaged during construction at no expense to the owner.

Upon receipt of the building permit, the Contractor shall prepare and implement an Erosion and Sediment Control Plan on the construction site prior to starting construction and maintain it throughout the construction period. The Erosion and Sediment Control Plan shall be readily accessible on site.

All costs associated with maintenance of drainage patterns and repair or replacement of drainage ditches, swales, catch basins, storm drains, gutter flow lines, and any other drainage appurtenances are incidental to the Contract or to the item under construction, and no separate payment will be made.

Dust and Mud Control

a. The Contractor shall maintain all excavations, embankments, stockpiles, access roads, waste areas, borrow areas, and all other work areas free from excess dust and mud to such reasonable degree as to avoid causing a hazard or nuisance to others.

b. All existing paved areas and roadways, especially heavily traveled roads, adjacent to the project construction site or used as haul roads, shall be kept clean of dirt, mud, and debris resulting from the Contractor's operation during the construction period.

Article 4.11 Utilities

Whenever the Contract Documents require permanent connections to be made to utility lines, the Contractor shall, unless otherwise specified in the Supplementary Conditions, be responsible for making the connection to the utility line at the point(s) indicated on the Drawings, including making all necessary applications with the Utility Company, for paying the fees and for performing the work associated with making the connections indicated. The Contractor is not responsible for bringing utility lines to the point of connection. The Contractor shall pay all costs for utility service prior to the date of Substantial Completion.

Locations of utilities shown on the Drawings are not exact. Aboveground utilities have been field-located. Belowground utilities are shown as depicted on record documents prepared by others. The Contractor shall not hold the Owner liable for damages to utilities incurred during construction due to deficiencies or omissions on the Drawings or these provisions. At least forty-eight (48) hours prior to commencing work, the Contractor shall contact all local utility companies to obtain underground utility locates and shall exercise due care to prevent damage to utilities. Should a utility be damaged, the Contractor shall immediately notify the utility company and have the damage repaired, at no cost to the Owner. The utility has the right to do work or have its contractor do work in connection with making repairs to the utility lines damaged by the Contractor. If any Utility Company determines that a utility has to be temporarily raised, lowered, moved, guyed,

shored, braced, or otherwise protected during construction, the Contractor shall do so at his own expense and to the satisfaction of the utility company.

The Contractor shall maintain all utility service connections whether marked on the Drawings or not. In addition, the Contractor shall repair or replace all utility service connections (at his own cost) that are damaged by his actions.

At a sufficient distance, prior to encountering a known obstacle or tie-in to an existing conduit, pipe, or manhole, the Contractor shall expose and verify the exact location of the obstacle, pipe, or manhole so that proper alignment and/or grade may be determined before the pipe sections are laid in the trench and backfilled. The Contractor shall notify the Owner's Representative of the results of this verification prior to commencement of the Work affected by results of verification, so that any modification to the contract drawings or supplementary instructions may be supplied by the Owner's Representative. The Contractor shall allow the Owner's Representative one complete working day to review the verification results and provide any design modifications or supplementary instructions necessary. No additional payment will be made for this Work.

The Contractor shall bear all costs incurred for removal and alignment of backfilled pipe sections due to improper verification methods.

Unless otherwise specified in the Supplementary Conditions, it is the intent of the Contract Documents that utilities will not be relocated to facilitate construction. If the Owner's Representative determines that an existing utility must be relocated because it is in direct conflict with the facility being constructed, the existing utility will be relocated by the Utility Company at no charge to the Contractor.

The Contractor shall be responsible for coordinating the Work with any work of a Utility Company and shall not interfere with the initial installation, relocation, reconstruction, or replacement of any utility including the making of necessary service connections by the utility company. If the Work of the Contractor is delayed because of any acts or omissions of the utility company, the Contractor will not be entitled to additional compensation from the owner but may be entitled to an extension of time.

Article 4.12 Utility Connections

Whenever the Contract Documents require permanent connections to be made to utility lines, the Contractor shall, unless otherwise specified in the Supplementary Conditions, make the connection to the utility line, or have the Utility Company make the connection, at the point(s) indicated on the Drawings. The Contractor shall make all necessary applications to the Utility Company and pay all fees and perform all Work associated with making the connections that is not performed by the Utility Company. The Contractor is not responsible for bringing utility lines to the point of connection. The Contractor shall pay all costs for utility service prior to the Date of Substantial Completion.

Article 4.13 As-Built Documentation

The Contractor shall maintain As-Built Documents on the job site consisting of a complete set of Drawings and the Project Manual on which all changes of material, equipment, dimensions, or other changes in the Work shall be recorded (i.e., “marked up”) and kept current on a daily basis and shall be made available to the Owner’s Representative at all times. This shall include the following:

1. Placing special emphasis on items of the Work that have been or will be concealed and showing substitutions for items specified or shown, and including all approved changes.

2. Requiring Subcontractors, including mechanical and electrical, to keep their portions up to date and correct.

3. Dimensioning all relocations and routing adequately to ensure easy access for maintenance or remodeling.

Upon completion of the marked-up As-Built Documents, the Architect/Engineer will furnish to the Contractor a CD of the drawings along with a complete full size paper set. The Contractor shall only employ personnel for this task who are proficient in the preparation of architectural or engineering drawings.

All additions and corrections shall be neat, clean, and legible and shall match the adjacent existing line work and lettering annotated in type, density, size, and style. If additional drawings are required, the Contractor shall prepare them upon the same size as the original Drawings. Drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at his expense.

The Architect/Engineer will review all Record Documents for completeness and conformance to the standards stated above. The Contractor shall make all corrections, changes, additions, and deletions required to conform to the standards. The Architect/Engineer may periodically review the status of the Record Documents during the course of the Work. Failure of the Contractor to keep the Record Documents current and in the required condition will be considered cause for additional withholding from the progress payments as provided in MASS Section 00700.07 Measurement and Payment, Article 7.4 Progress Payments

Approved final As-Built Documents, bearing certification of their correctness, shall be delivered to the Owner’s Representative prior to the pre-final inspection. The Certificate of Completion shall not be issued until after receipt of final As-Built Documents. All Work associated with the development, preparation, and presentation of all Record Documents shall be incidental to the improvements being constructed, and no separate payment will be made.

Article 4.14 Operations and Maintenance (O&M) Manuals

The Contractor shall provide to the Owner's Representative thirty (30) days prior to the Substantial Completion date three (3) sets of Operations and Maintenance (O&M) manuals and one CD of the scanned O&M for all items of material and equipment as required by the Technical Specifications. The manuals shall be bound in hardcover binders with removable pages. The manuals shall be prepared in three (3) sets: Architectural, Mechanical Equipment, and Electrical Equipment. In addition to the requirements in the Technical Specifications, the manuals shall each contain an Index, by Specification Section; a key plan that graphically locates items of equipment; a list of contractors and subcontractors with addresses and telephone numbers; and a list of local representatives with addresses and telephone numbers.

1. The Contractor shall assemble all copies of the manuals in three-ring, hardcover binders. The Contractor shall be responsible for the following: Clearly label each binder on the cover and the end of the binder to designate the system or equipment for which it is intended with reference to the building and equipment number and the Specification Section where the equipment information is provided. Include the date of completion of the project.

2. Provide each binder with title page, typed table of contents with page numbers, and heavy section dividers with numbered plastic index tabs.

3. Divide each manual into sections paralleling the equipment specifications.

4. Where more than one binder is required, they shall be labeled "Vol. 1," "Vol. 2," and so on. Place the table of contents for the entire set, identified by volume number, in each binder.

5. Submit the manual organization and format to Owner's Representative for approval prior to manual preparation.

6. Hole punch all data for binding and composition and shall arrange printing so that punching holes does not obliterate data.

7. When standard technical data are provided, edit and delete all non-relevant information that is not applicable to the specific equipment or material provided.

8. Material in manuals shall be suitable for photographic reproduction. Where copies of identical material are included, the clarity and quality of copies shall equal the original.

Contents: Each manual shall be complete in all respects regarding equipment, controls, accessories, and associated appurtenances, and shall include the following:

1. Diagrams and illustrations.
2. A detailed description of the function of each principal component of the system.
3. Performance and nameplate data.
4. Installation instructions.
5. Procedure for starting.
6. Proper adjustment information.
7. Test procedures and results of factory tests where required.
8. Procedure for operating.
9. Shutdown instructions for both short and extended durations.
10. Emergency operating instructions and troubleshooting guide.
11. Safety precautions.
12. Maintenance and overhaul instructions, illustrated with detailed assembly drawings showing each part with part numbers and sequentially numbered parts list. Include instructions for ordering spare parts, and complete preventive maintenance and overhaul instructions required to ensure satisfactory performance and longevity of the equipment.
13. Lubrication instructions and diagrams showing point to be greased or oiled; recommend type, grade, and temperature range of lubricants; and frequency of lubrication.
14. List of electrical relay settings and control and alarm contact settings.
15. Electrical interconnection wiring diagram for equipment furnished, including all control and lighting systems.
16. Referral to individual Specification Sections for additional O&M requirements.

Article 4.15 Temporary Erosion Control During Construction

The Contractor shall provide all temporary erosion control measures necessary during construction for the prevention of water pollution, erosion, and/or siltation. These measures are for the protection of all streams, lakes, ponds, wetlands, and tidal waters.

The Contractor is directed to Alaska State regulation 18 Alaska Administrative Code [ACC] 70, which states that no person may conduct an operation that causes or contributes to a violation of water quality standards set forth in 19AAC70.010 through 18ACC70.032.

Unless a temporary erosion control plan during construction is specifically called out and included in the drawings and other contract documents, the Contractor shall provide a plan describing temporary erosion control measures to be employed during construction.

Deliver the plan to the Owner's Representative within ten (10) days of the effective date of the Notice to Proceed or five (5) days before the commencement of Work, whichever is the earlier date. The Owner's Representative will review and accept or reject the plan within five (5) working days of submission, and will review successive submittals within five (5) working days. The Contractor shall install the approved temporary erosion control measures immediately after mobilization and before commencing excavation.

Temporary erosion control measures include such items as silt fences, sedimentation ponds, intercepting embankments and channels, check dams, rock lining, mulching, jute matting, seeding, sodding, and other erosion control devices as required. Where erosion is expected to be a severe problem, the Contractor shall schedule and perform clearing, grubbing, grading, filling, and other operations such that permanent erosion control measures follow immediately.

Permanent erosion control measures are those work items specified elsewhere in the Contract Documents that are intended to provide permanent erosion control such as paving, seeding and other measures as required.

Temporary erosion control measures shall remain in place and in good working condition until Work is complete under the Contract. The Contractor is responsible for the continued maintenance of these temporary erosion control items and replacement of damaged items. The Owner's Representative may suspend Work if the Contractor fails to carry out the requirements of the temporary erosion control plan. After suspension of the Work, the Owner may perform or contract the performance of the erosion control measures and deduct those costs from the Contractor's progress payments.

Payment for this Work is incidental to the Contract, and no separate payments will be made.

SECTION 00 72 13.05 CONTROL OF WORK

Article 5.1 Authority of the Owner's Representative

The Owner's Representative will observe the Work in progress on behalf of the Owner, and will be identified at the time the Notice to Proceed is issued. The Owner's Representative is not responsible for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work. Visits and observations made by the Owner's Representative will not relieve the Contractor of his obligation to conduct comprehensive inspections of the Work, to furnish materials, to perform acceptable Work, and to provide adequate safety precautions, in conformance with the intent of the Contract. The Work will not be considered completed until a Certificate of Completion is issued by the Owner's Representative. The Contractor shall at all times carry out and fulfill the written instructions and written directions of the Owner's Representative regarding the Contract Documents.

The Owner's Representative has the authority to order changes in the Work requiring an adjustment in the Contract amount and/or time. However, any change in the Work shall be in accordance with Article 5.21 – Changes in the Work. Any single change in the Work, or cumulative changes in the Work, which will cause the total value of the Contract to exceed the limits stated in AMC 7.15.080 requires Assembly approval.

The Owner's Representative will in all cases make determinations on any and all questions that may arise concerning the quality, quantity, and acceptability of materials furnished, the Work performed, the rate of progress of the Work, and the interpretation of Contract Documents.

If the Contractor determines that instructions, clarifications, or directions issued by the Owner's Representative constitute a change in the requirements of the Contract Documents, he may make claim as provided under Article 5.22 - Claims for Additional Compensation.

Article 5.2 Prosecution of the Work

The Contractor shall not commence Work until a written Notice to Proceed has been received by the Contractor. He shall commence the Work within ten (10) days after the effective date specified in the Notice to Proceed and shall prosecute the Work vigorously and continuously.

Article 5.3 Construction Progress Schedule and Schedule of Values

Within ten (10) days after the effective date of the Notice to Proceed and prior to commencement of the Work, the Contractor shall submit, to the Owner's Representative a Construction Progress Schedule in the form of a time-scaled bar chart, the elements of which shall be the Divisions and Sections of the Project Manual, weather and ground condition restraints, and Work suspensions and other significant influences on the Contract amount and/or the time for completion of the Work. The Contractor shall include other significant features of the Work such as the submittal schedule, permit acquisition plan, material procurement milestones, plant and equipment procurement dates, and shipping schedules. The bar chart shall include a graph representing the monthly percent of Work to be completed. The bar chart shall be revised and resubmitted as required by the Owner's Representative, when conditions cause changes to the construction schedule, or on a monthly basis, whichever is sooner.

When required by the Owner's Representative, the Contractor shall also deliver, at the same time the Construction Progress Schedule is delivered and in a form satisfactory to the Owner's Representative, a Schedule of Values for Contract Payments for those lump sum items designated by the Owner's Representative. The Contractor shall submit monthly partial Payment Estimates based on the Schedule of Values. All Schedules of Values and Payment Estimates shall, as a minimum, be organized to be consistent with the Divisions and Sections of the Project Manual. The Owner's Representative may require submission of revised construction schedules demonstrating the manner in which the Contractor will achieve the necessary rate of progress, all without additional cost to

the Owner. Partial Payment Estimates may be appropriately reduced if the Owner's Representative determines that the Contractor has failed to supply the Owner with the requested or necessary information.

In addition to the time-scaled bar chart described above, and when specified in the Supplementary Conditions**,** the Contractor shall develop and submit to the Owner's Representative for approval a time-scaled Critical Path Method (CPM) schedule. Both a hard copy and electronic copy of the CPM schedule shall be submitted. The Contractor shall revise and resubmit the CPM schedule to reflect any alteration in the sequence of scheduled activities or of the critical path with each partial payment request and at such other times as the Owner's Representative may require, and at any time the Contractor determines that the critical path is altered by changes or other circumstances. The Contractor shall submit the initial CPM schedule to the Owner's Representative no later than twenty-one (21) days from the effective date of the Notice to Proceed and at least monthly thereafter.

The Contractor shall organize the scheduled activities to be consistent with those Specifications Divisions and Sections required for the Work. Each Division and Section of the Specifications and each item in the Schedule of Values shall be represented by one or more scheduled activities. In addition, one or more scheduled activities shall be used to represent the submittal schedule, permit acquisition, materials procurement, plant and equipment procurement, shipping, and all other significant elements of the Work. The Contractor shall include activities that address weather and ground condition restraints, critical dates, holidays, periods of Work suspension, and all other restraints (i.e., all events that are critical or will become critical to the schedule).

All schedules, whether they are bar chart schedules or CPM schedules, shall include enough detail to adequately describe all important activities necessary to complete the Work. Unless otherwise agreed to by the Owner's Representative, no single activity in any schedule will be allowed to represent more than $50,000 of the total scope of the Work. Providing the initial schedule and monthly schedule updates shall be considered a payable activity and appropriate payment amounts shall be included in the Schedule of Values. Failure to provide adequate schedules will result in non-payment in accordance with the amounts established in the Schedule of Values.

Article 5.4 Unusual Working Hours, Holidays, Saturdays, and Sundays

The Contractor shall give the Owner's Representative forty-eight (48) hours advance notice of his intention to work overtime, Saturdays, nights, Sundays, holidays, or anytime outside the usual working hours. In no case shall the Contractor do any such Work without first notifying the Owner's Representative to allow arrangements for proper inspection. Unless of an emergency nature, the Owner will not pay for work performed in violation of this paragraph.

The Contractor shall reimburse the Owner all costs for inspection work performed on Sundays or recognized holidays except when this work is required by a permit issued by an agency after the contract has been executed.

Article 5.5 Shop Drawings

The Contractor shall submit for review to the Owner's Representative six (6) copies of those Shop Drawings required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor.

The Shop Drawings submitted by the Contractor shall bear his specific written and signed certification that he has verified that the Work shown is in conformance with the contract documents; that he has determined and verified quantities, dimensions, field measurements, and related field construction criteria; and has checked and coordinated the submittal with the requirements of the Work. The Contractor shall indicate on the Shop Drawing submittal any deviation from the requirements of the Contract Documents.

All Shop Drawings shall be clear and legible. Any Drawings submitted that appear to be carelessly prepared, erroneous, or unchecked will be returned to the Contractor for further action and resubmittal.

The Owner's Representative shall submit the Shop Drawings to the Architect/Engineer. With reasonable promptness, the Architect/Engineer will review and approve or take other appropriate action on the submittals, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. The Architect/Engineer's approval of a specific item will not indicate approval of an assembly of which the item is a component.

The Architect/Engineer will state the reasons for rejection and/or resubmittal requirements if applicable.

The Contractor shall specifically note if revisions on resubmittals are other than those requested by the Architect/Engineer on previous submittals.

The Architect/Engineer, upon his approval, will return two copies of the Shop Drawings to the Contractor. If the Contractor requires more than two (2) copies, he shall submit such additional copies.

The Architect/Engineer's approval of Shop Drawings does not relieve the Contractor of responsibility for any deviation from the Contract Documents unless the Contractor has informed the Architect/Engineer in writing of the specific deviation and the Architect/Engineer has approved the specific deviation in writing. Errors and omissions that may occur in the Shop Drawings are the responsibility of the Contractor. The Contractor is not relieved of this responsibility by the Architect/Engineer's approval of the Shop Drawings.

When Shop Drawings are required on a portion of the Work, the Contractor shall not commence that portion of Work or any item relying on said portion of Work until the Architect/Engineer gives written approval of the Shop Drawings.

The Contractor shall keep one copy of all Contract Documents, including modifications, and one copy of approved Shop Drawings in good order and available to the Architect/Engineer or his representative at the construction site.

Article 5.6 Product Data

The Contractor shall submit for approval six (6) copies of complete Product Data for those items for which submittals are required by the Contract Documents including, but not limited to: specific performance data, material description, rating, capacity, working pressure, material gauge or thickness, brand name, catalog number, and operations and maintenance data. The Contractor shall submit such submittals with reasonable promptness and in such sequence as to not cause a delay in the Work, in the Work of the Owner, or any separate Contractor. With reasonable promptness, the Architect/Engineer will review and approve or take other action on the submittals. The Contractor shall not order equipment before receiving approval by the Architect/Engineer.

Product Data for equipment approved by the Architect/Engineer shall not in any case supersede the Contract Documents. The approval by the Architect/Engineer shall not relieve the Contractor from responsibility to correct deviations from Drawings or Specifications, unless he has in writing called the Architect/Engineer's attention to such deviations at the time of submission and secured the Architect/Engineer's written approval, nor shall it relieve him from responsibility to correct errors of any sort in the items submitted. The Contractor shall check and approve the item described by the Product Data with the Contract Documents for deviations and errors prior to submittal to the Architect/Engineer for approval. It shall be the responsibility of the Contractor to ensure that items to be furnished fit the space available as shown in the Contract Documents.

Upon approval of the equipment by the Architect/Engineer, the Contractor shall furnish four (4) copies of Product Data of all equipment or components together with operations and maintenance instructions.

Article 5.7 Submittal List

The Contractor shall complete, submit, and/or comply with all requirements as indicated in the Submittal List located in the bidding documents. The Contractor is hereby advised that the Submittal List is not an all-inclusive document. The Submittal List does not relieve the Contractor from his obligation to comply with all submittals, certifications, or other requirements as specified in these specifications or in the plans. The Contractor is responsible for determining that all submittals, certifications, and/or requirements are met, whether or not specifically addressed in the Submittal List.

Article 5.8 Materials

All materials and equipment furnished under the Contract shall be new unless otherwise specified and shall be of good quality, shall be free from defects, and shall conform to the requirements of the Contract Documents. Substitute materials shall not be used unless

approved by the Owner's Representative prior to installation. When required by the Owner's Representative, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

In order to establish standards of quality, the Technical Specifications may refer to certain products by name and catalog number. This does not eliminate from competition other products of equal or better quality by other manufacturers. The words "approved equal" are implied regardless of whether or not they appear.

The Contractor shall furnish the Owner's Representative with the list of proposed substitutions within ten (10) calendar days of the effective date of the Notice to Proceed (or such time as may be approved by the Owner's Representative), together with complete engineering and catalog data in sufficient time prior to their use to give the Owner's Representative adequate time for review. Failure on the part of the Contractor to obtain the necessary approval prior to ordering or using such alternate material or equipment shall not relieve the Contractor of furnishing acceptable material or equipment as required by the Contract Documents.

When the Owner's Representative judges the proposed substitute material or items of equipment to be unacceptable, the Contractor shall abide by the Owner's Representative's decision and shall furnish the specified material or item of equipment. The Owner's Representative will approve or disapprove proposed substitutions in writing within a reasonable time.

The Contractor shall store materials in such a manner as to ensure the preservation of their quality and fitness for use. When considered necessary to protect materials against cold or dampness, or to keep them clean and free from dust, dirt, or other detrimental matter, suitable sheds, platforms, and covers will be used that provide easy access to stored materials for inspection whenever access is requested by the Owner's Representative.

The Contractor shall apply, install, connect, erect, use, clean, and condition manufactured articles, material, and equipment as directed by the Manufacturer. In the event of conflict between the manufacturer's directions and the Contract Documents, the higher standard requirements shall govern.

Article 5.9 Testing of Materials

The Contractor shall conduct all tests in accordance with methods as described and designated in the Contract Documents. The Owner shall provide and pay for tests of materials that are required on site, unless otherwise specified in the Supplementary Conditions. The Contractor shall provide and pay for all factory testing, mill testing, and other off-site testing as specified or required to conform to codes and industry standards.

The Contractor shall provide such labor and facilities as may be required for collecting and forwarding samples to the local testing laboratory necessary for testing and shall hold the materials represented by the samples until tests have been made and the materials found equal to the requirements of the Specifications. The Contractor in all cases shall furnish the required samples without charge.

The Owner's Representative may periodically require repetitive testing of materials in constant use. The Contractor shall pay for retesting when materials have previously been tested and have not met the requirements of the Contract Documents.

In the absence of any definite Specification, materials and tests shall meet the specifications and requirements of the American Society for Testing and Materials (ASTM) and the American Association of State Highway Transportation Officials (AASHTO).

Wherever a particular ASTM or AASHTO specification is referred to by number, such reference shall include all amendments and additions thereto adopted by the ASTM or AASHTO prior to the award of the Contract.

Repetitive testing of materials in constant use may be required periodically by the Owner's Representative. Required retesting shall be accomplished at the expense of the Contractor when materials have previously been tested and have not met the requirements of the Contract Documents.

Article 5.10 Contractor's Authorized Representatives and Employees

The Contractor shall, within five (5) days after the Notice to Proceed, in writing, name the Superintendent, and file with the Owner's Representative a list of all persons who are authorized to sign documents on behalf of the Contractor to fully bind the firm.

The Superintendent shall be thoroughly qualified and experienced, shall be completely familiar with the requirements of the Contract Documents, shall direct all Work, and shall be present at the project site or readily available at all times while Work is in progress.

The Contractor shall employ only qualified journeymen, mechanics, operators, tradesmen, and installers who are thoroughly skilled and experienced in their respective trades or specialties. When apprentices and helpers are employed, they shall be under the supervision of qualified journeymen mechanics and tradesmen at all times.

The Contractor shall at all times enforce strict discipline and good order among his employees and Subcontractors and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him. The Owner's Representative may require the Contractor to remove from the Work any employee or Subcontractor that the Owner's Representative deems incompetent, careless, or otherwise objectionable.

Article 5.11 Subcontracting

If any part of the Work to be done under the Contract is subcontracted, the subcontracting shall be done in accordance with the following provisions:

The Contractor shall provide the Owner's Representative, in writing, a list of Subcontractors within 10 days of Notice to Proceed and prior to subcontractor working on site, together with a summary of the extent and character of the Work each Subcontractor shall do. If, for sufficient reason, at any time before or during the progress of the Work, the Owner's Representative determines that any Subcontractor is incompetent or undesirable, he will notify the Contractor accordingly. The Contractor will take immediate steps for cancellation of such subcontract. Subletting by Subcontractors shall be subject to the above.

The Contractor shall be fully responsible to the Owner for the acts and omissions of his Subcontractors and of persons either directly or indirectly employed by them. Nothing contained in the Contract Documents shall create a contractual relation between any Subcontractor and the Municipality.

The subcontracting of any of the Work to be done shall in no way relieve the Contractor of any part of his obligations under the Contract.

Article 5.12 Right of the Municipality to Do Work

The Municipality has the right to do Work and may award other Contracts in connection with the Work under this Contract or nearby projects. The Contractor shall conduct his operations to interfere as little as possible with other Contractors or Subcontractors on or near the Work.

Article 5.13 Safeguarding of Excavations

The Contractor shall provide such safeguards and protections around and in the vicinity of all excavations as may be necessary to prevent damage to property or injury to persons.

Contractor shall backfill all trench excavations to the top of the trench at the end of each working day, except, at Contractor's option, he may leave open a "bell-hole" if it is properly barricaded and if adequate signing and warning lights are placed to prevent inadvertent entry by vehicular or pedestrian traffic. If groundwater or surface water results in standing water in the remaining excavation, the Contractor shall provide continuous pumping during the nonworking hours to maintain the excavation in a dewatered condition. All roadways shall be left in a drivable condition for normal vehicular and transport operations at the end of each day's operation, except where the Owner's Representative has approved road or lane closures.

These requirements shall in no way relieve the Contractor of the obligation to restore private property to its preconstruction condition.

Article 5.14 Use of Explosives

In the handling and storage of explosives, the Contractor must comply with all federal, state and municipal laws, and shall use every precaution to prevent injury to persons and damage to property. The Contractor shall provide secure storage places, identified with warning signs. Only persons licensed and experienced in the handling of explosives shall be allowed to use them. Before detonating explosives, the Contractor shall sound a warning and remove all persons from within the radius of danger. The Contractor shall provide proof of license to the Owner's Representative prior to handling and use of explosives.

Article 5.15 Duties of Inspectors

Inspectors will be authorized to inspect all Work and Materials. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors will not be authorized to alter or waive the provisions of the Contract. Inspectors will not be authorized to issue instructions contrary to the Contract Documents or to act as supervisors for the Contractor.

Inspectors will immediately inform the Contractor of any deficiency known to exist in the Work and any laboratory test results related to the Work.

The Contractor's responsibility for Work performed under the Contract shall in no way be relieved because of the presence or absence of an inspector. An inspector, by his presence, does not render Work acceptable.

Article 5.16 Inspection

The Contractor shall allow the Architect/Engineer and his representatives and the Owner's Representative access to all parts of the Work at all times and shall furnish them with every reasonable facility for ascertaining whether or not the Work is in accordance with the requirements and intent of the Contract Documents. Upon the request of the Owner's Representative, the Contractor shall, at any time before Final Acceptance of the Work, remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor shall restore said portions of the Work to the standard required by the Contract Documents. Should the Work thus exposed or examined, prove acceptable, the Owner will pay for the uncovering, removing, replacing of the coverage, and restoration of the parts removed as extra work.

Should the Work so exposed or examined prove unacceptable, the Contractor shall pay for the uncovering, removing, replacing of the covering, and restoration of the parts removed.

Article 5.17 Work Limits, Easements, and Rights-of-Way

The Owner will provide work limits, rights-of-way and easements for the Work. Information regarding the width and status of easements is shown on the Drawings. The

Contractor shall comply with all Supplementary Conditions, provisions, stipulations, and restrictions thereof. The Contractor shall confine his operations to the designated work areas, rights-of-way and easements and shall observe all restrictions. Prior to the start of construction of this project, the Contractor will ensure that all permits necessary for the construction of the project, including right-of-entry for driveway reconstruction, have been obtained and will ensure that they are available on the job site at all times.

The Contractor will be responsible for any trespass upon adjacent property or injury thereto resulting from or in connection with his operations. The Contractor shall be liable for any claims that may be made on account of trespass and shall provide a written statement from the property owner of full restoration or satisfactory resolution prior to Final Acceptance of the Work. The Contractor shall not have the right to remove materials from a right-of-way, easement, or work area unless otherwise provided in the Contract Documents.

Should the Contractor desire to go outside designated work areas, rights-of—way or easements, he shall provide the Owner's Representative with written permission from the property owner before entering such property. The written permission shall specifically provide that the property owner will not hold the Municipality or its employees, agents, or consultants liable for use of or damage to this property.

Article 5.18 Responsibility for Damages

The Contractor shall be responsible for all damages to property; injury to persons; and loss, expense, inconvenience, and delay that may be caused by or that may result from any act, omission, or neglect of the Contractor, his Subcontractors, or his employees in the performance of the Work.

It is specifically understood between the parties executing the Contract that the Contract Documents do not make anyone a third-party beneficiary, nor does the Contract authorize anyone not a party to maintain a lawsuit for personal injuries or property damage.

Article 5.19 Repair of Damages Caused by Contractor

All damage and injury to property that is caused by or that results from the carrying out of the Work, or from any act, omission, or neglect of the Contractor, his Subcontractors, or his employees, shall promptly be remedied by the Contractor either by the repairing, rebuilding, or replacing of the property damaged or in some other manner satisfactory to the owner of such property. In case of failure on the part of the Contractor to promptly and satisfactorily remedy such damage or injury, the Municipality may proceed to repair, rebuild, or replace such property as required, and the cost thereof will be deducted from any monies due or that may become due the Contractor.

In applying the above provisions, the repairing, rebuilding, or replacing of damaged property shall be understood to include the providing of any temporary facilities that may be needed to maintain normal service until the required repairing, rebuilding, or replacing is accomplished.

This provision also applies to all areas used by the Contractor for staging of the construction and shall include restoring those properties to their original condition to the satisfaction of the Owner's Representative.

Article 5.20 Unauthorized and Defective Work

Any unauthorized or defective Work found to exist during construction shall be immediately remedied by the Contractor. If the Contractor fails to correct unauthorized or defective Work, the Owner may, three (3) days after a written notice to the Contractor, correct such deficiencies and deduct the cost thereof from any payment due the Contractor without prejudice to any other remedy including the use of Article 5.29 – Termination of Contract by Owner.

Article 5.21 Changes in the Work

The Owner's Representative shall have the authority to order changes in the Work requiring an adjustment in the Contract amount and/or time. Such changes in the Work shall be performed in accordance with any supplemental Drawings and instructions as the Owner's Representative may issue. Any single change in the Work, or cumulative changes in the Work, which will cause the total value of the Contract to exceed the limits stated in AMC 7.15.080, requires Assembly approval. The Owner will pay for additions to the Work or take credit for reductions to the Work using one of the four methods described below.

1) Negotiated unit or lump sum prices.

2) Time and Material prices (when the Owner's Representative determines that contract prices or negotiated prices do not apply).

3) Contract unit or lump sum prices (if they have been included as a part of the Contract).

4) No cost changes (when the Owner's Representative determines that a change is necessary which does not affect the price or time for the work).

Prior to the Owner's Representative authorizing payment for changed work, the Contractor shall furnish a Change Order Proposal that is itemized as required by the Owner's Representative for both additions and deletions to the Work.

The Contractor's Change Order Proposal shall be in sufficient detail to permit an analysis of all materials, labor, equipment, subcontracts, insurance, bonds, overhead costs and profit and shall cover all Work involved to accomplish the modification whether deleted,

added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. The Contractor agrees that it will incorporate the provisions of this Article 5.21 into all agreements with lower tier subcontractors.

If the Contractor's Change Order Proposal includes a request for a time extension, a justification thereof shall also be furnished. The Change Order Proposal together with the price breakdown and time extension justification shall be furnished by such date as may be specified by the Owner's Representative.

Each Change Order Proposal shall include a clear summary of the contract requirements; the reason for the requested change; a description of the change and whether additional time or other compensation is requested or credit offered to the Owner. Unless agreed at the time of the Owners Representative's acceptance of the Change Order Proposal, and formalized by an executed Change Order, any and all increased costs or delays resulting directly or indirectly from an unapproved Change Order Proposal will be borne solely by the Contractor.

1) Negotiated Changes: When extra work is ordered by the Owner's Representative to be performed on a negotiated unit or lump sum basis, the Contractor will be required to submit a properly itemized Change Order Proposal covering all the additional work and/or work to be deleted. The proposal will be itemized for the various components of work and segregated by labor, material, and equipment costs in a format satisfactory to the Owner's Representative. Each proposal will include similar itemized costs for all subcontractors, regardless of tier. The labor, material and equipment components of each proposal shall include the following:

Allowances for Profit and Overhead for Negotiated Changes:

Contractor Change Order Proposals for the performance of changed work shall include all direct costs for labor, materials, and equipment as described above. The Owner's Representative will review the proposals for reasonableness and adequate detail in order to reach agreement with the Contractor before including allowances as described below:

- In addition to the direct costs of labor, materials and equipment incurred by the Contractor, the Contractor shall be entitled to an allowance for profit and overhead. This allowance shall be 20% of direct costs.

- If work is performed by a subcontractor, the subcontractor actually performing the work shall be entitled to those allowances for profit and overhead listed above, and each subsequent higher tiered subcontractor or Contractor shall be allowed an additional 10% markup on the subcontractor's direct costs, up to a maximum of two tiers of subcontractors.

The allowance made in accordance with the terms outlined above will be understood to be complete reimbursement and compensation for all indirect costs associated with changed work including, but not limited to job office overhead, home office overhead, project management, superintendents, general foremen, estimating, engineering, detailing, legal, accounting, shop drawings, submittals, costs of small tools and small equipment, warranty, bond cost, insurance premiums, and profits.

Any allowance made by the Contractor to a Subcontractor, other than specified herein, shall be at the expense of the Contractor.

2) Time & Material Changes: When extra work is ordered by the Owner's Representative to be performed on a time and materials basis, the Contractor will be required to perform the extra work at the actual direct cost for labor, materials and equipment plus allowances for profit and overhead. In order for payment to occur, the Contractor must document all direct costs in a manner acceptable to the Owner's Representative. The contractor shall provide daily time sheets with the names of all Contractors employees working on the changed work, the number of hours each employee works on the changed work, and a description of the work performed. In addition, the Contractor shall provide daily records of all equipment used to perform the changed work showing the number of hours each piece of equipment was used, a description of the work performed, and the name of the equipment operator. All materials incorporated into the changed work shall be documented with itemized invoices from vendors and suppliers.

Labor:

Labor costs shall include the direct hourly cost of labor stated on the certified payroll for each labor classification plus other direct labor costs including, but not limited to, FICA, Workers' Compensation, ESC, and public liability and property damage insurance when premiums are based on a percentage of payroll. The labor costs shall include only those direct labor hours required to perform the changed work for workers and working foremen. Supervision above the level of working foremen (such as general foremen, superintendents, and project managers, etc.) shall not be included in labor costs and shall be considered to be included in the Overhead and Profit Markup as described later in this Article 5.21.

Materials:

Costs for materials and supplies, including freight, will be based on the net actual cost of the material and supplies required to perform the changed work, as verified by appropriate vendor and third party invoices. Material costs shall reflect cost reductions available to the Contractor due to trade discounts, volume rebates, and price reductions for prompt payments, if applicable. Material costs

must be itemized to display the unit price for each specific item incorporated into the work

Owned Equipment (over $500):

For any machinery or special equipment (other than small tools less than $500) the Contractor shall include costs for the rental rates in the current edition and appropriate volume of the "Rental Rate Blue Book For Construction Equipment," (hereinafter referred to as the "Blue Book"), published by Dataquest, Inc. Hourly rental rates shall be determined as follows:

- The established hourly rental rate shall be equal to the monthly rate for the basic equipment plus the monthly rate for applicable attachments necessary to perform the work, both divided by 176, all multiplied by the area adjustment factor, plus the estimated hourly operating costs listed in the Blue Book.

- The area adjustment factors shall be applied for those sections the "Blue Book" containing an area adjustment map.

- The "Equipment Life" adjustment factor sections shall not apply.

For equipment not listed in the Blue Book, the Contractor shall receive a rental rate as agreed upon before the changed work is begun. If agreement cannot be reached, the Owner's Representative reserves the right to establish a rate based on similar equipment shown in the Blue Book or based on prevailing commercial rates in the area.

Rented Equipment (over $500):

Costs for equipment brought to the work site and rented or leased specifically for work required under this section shall be included at the actual rental rate and supported by invoices from the equipment vendor. Rental rates for equipment shall be consistent with prevailing rates for similar equipment in the area.

Costs for rented equipment previously on the site and utilized specifically for changed work shall be included at the actual rental rate and supported by invoices from the equipment vendor, provided the hourly rate for this equipment shall not be greater than the hourly rate paid for that same equipment for other work in this contract.

Time for both owned and rented equipment will be estimated to the nearest one-quarter hour for purposes of computing compensation to the Contractor for equipment utilized under these rates.

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

When it is necessary to obtain equipment from sources beyond the project limits exclusively for changed work, the actual cost of transferring the equipment to the site of the work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the Contractor hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. Move-in allowance shall not be made for equipment brought to the project for changed work which is subsequently retained on the project and utilized for completion of contract items.

- In addition to the direct costs of labor, materials and equipment incurred by the Contractor, the Contractor shall be entitled to an allowance for profit and overhead. This allowance shall be 15% of direct costs.

- If work is performed by a subcontractor, the subcontractor actually performing the work shall be entitled to those allowances for profit and overhead listed above, and each subsequent higher tiered subcontractor or Contractor shall be allowed an additional 10% markup on the subcontractor's direct costs, up to a maximum of two tiers of subcontractors.

The allowance made in accordance with the terms outlined above will be understood to be complete reimbursement and compensation for all indirect costs associated with changed work including, but not limited to job office overhead, home office overhead, project management, superintendents, general foremen, estimating, engineering, detailing, legal, accounting, shop drawings, submittals, costs of small tools and small equipment, warranty, bond cost, insurance premiums, and profits.

Any allowance made by the Contractor to a Subcontractor, other than specified herein, shall be at the expense of the Contractor.

3) Unit Price Changes: When extra work is ordered by the Owner’s Representative to be performed on a unit price basis, the contract amount will be adjusted for both added quantities and deductive quantities in accordance with those unit prices that have been incorporated into the Contract, unless the Owner’s Representative determines there is a

more equitable method. For changed work authorized by the Owner's Representative, the Contractor shall submit a Change Order Proposal itemizing the quantities of each item of work for which there is an applicable unit price. The applicable unit prices will be applied to the net differences of all quantities of the same item. These unit prices will be considered to cover all direct and indirect costs of furnishing and installing the item, including all profit and overhead for contractor and subcontractor.

4) No Cost Changes: The Owner's Representative shall have authority to order changes in the Work that in his opinion do not require an adjustment in the Contract amount or an extension of time and are not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

If the Contractor claims that such written instructions or orders involve extra costs or an extension of time, he shall make his claim by following the procedures set forth in Article 5.22 - Claims for Additional Compensation. The Contractor shall proceed with the Work as directed by the Owner's Representative while his claim is being evaluated and shall not delay the Work while waiting for a decision.

Article 5.22 Claims for Additional Compensation

Except as elsewhere restricted, the Contractor may make a claim for additional compensation when he believes that he has incurred additional costs due to the acts, errors, or omissions of the Owner. If the Contractor becomes aware of any act or occurrence that may form the basis of a claim, the Contractor shall make every effort to mitigate the extent of any amounts claimed for additional compensation and shall immediately inform the Owner's Representative in writing of the potential for the claim, providing sufficient information to outline the basis of the claim. If the matter is not resolved within seven (7) days, the Contractor shall, within the next fourteen (14) days, submit written notice of the facts that may form the basis of the claim.

Thereafter, the Contractor shall submit the claim in writing to the Owner's Representative within twenty-one (21) days of the submission of the written notice of the facts unless the Owner's Representative agrees in writing to an extension of time for good cause shown. The Owner's Representative may grant up to a sixty (60) day extension only upon the written request of the Contractor in which all reasons for the request are stated. The Contractor agrees that unless these written notices are provided, the Contractor will have no entitlement to compensation for the acts, errors, or omissions of the Owner, the Architect/Engineer, or any other Contractor employed by the Owner. The Contractor shall in all cases continue performance of the Contract.

The written claim presented by the Contractor shall be complete and adequately stated . It shall specifically include the facts and circumstances surrounding the claim and the Contract provisions under which the claim is made; the Contractor's assertion as to the

original requirements of the Contract Documents and the basis for that assertion or position, citing all pertinent Specifications, Details, Plan notes or other Contract provisions; a clear certification that the Contractor's Bid Costs were in fact based on the stated original interpretation; the Contractor's assertion as to the revised requirements of the Contract Documents, citing all pertinent Contract provisions, or lack thereof, and other records on which that assertion or position is based; a narrative description of the increase in the Scope of Work resulting from the revision in the requirements; the Pay Items and quantities affected by the alleged change; references to previous notices of pending claim; and the specific relief requested, including both time extension and additional cost compensation and the basis on which both were calculated. In the case of cost compensation, such basis for specific relief shall include the labor classifications, rates and additional time; the equipment descriptions, rates and additional time; material descriptions, unit prices and quantities; and appropriate supporting documentation as to materials, unit prices, labor rates, and equipment rates.

Claims presented that do not include the above information or are otherwise considered to be incomplete will be returned to the Contractor without review by the Owner's Representative. The Owner's Representative will render a decision as to the merit of a properly presented claim within sixty (60) days of its receipt. Any change in the Contract amount resulting from such claim will be subject to approval by the Owner through the execution of a Change Order.

Article 5.23 Time for Completion of Work

The Owner shall indicate in the Supplementary Conditions either a time period for completion of the Work or a completion date. Time is of the essence in the Contract. Therefore, the Work to be performed under the Contract shall be completed in its entirety within the time period specified or before the completion date.

The Contractor shall furnish all labor, materials, facilities, and equipment and shall work the required hours, including night shifts, overtime operations, and Saturdays, Sundays, and holidays (per the requirements in Article 5.4 – Unusual Working Hours, Holidays, Saturdays, and Sundays) as may be necessary to ensure the completion of the Work within the time specified.

Failure of the Contractor to comply with the requirements of this Article may be considered grounds for termination under the provisions of Article 5.29 - Termination of Contract by Owner.

Article 5.24 Delays and Extension of Time

If the Contractor is delayed, beyond his control and without fault or negligence on his part, at any time in the progress of the Work by any act or neglect of the Owner or by changes ordered in the Work or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipated, unavailability of materials for which orders were timely placed, or by unavoidable casualties, then the time period for completion or the completion date may be extended by a Change Order, for such reasonable time as

the Owner's Representative may determine, without invalidating any of the provisions of the Contract and without the consent of the Surety.

Any claim for extension of time shall be made in accordance with the procedures set forth in Article 5.22 - Claims for Additional Compensation. In the case of a continuing delay, only one claim is necessary. The Contractor shall provide an estimate of the probable impact of such delay on the progress of the Work.

Article 5.25 Suspension of Work

By executing a contract, the Contractor agrees that the Owner has the undisputed right to suspend the Work and that this right is a material condition of the contract. The Contractor shall immediately suspend the Work as directed in the written order. Failure of the Contractor to immediately suspend the Work as directed shall constitute a material and immediate breach of the contract by the Contractor. The Owner may terminate this contract for default without providing the ten (10) day notice specified in Article 5.29 – Termination of Contract by Owner, should the Contractor fail, refuse or otherwise not immediately suspend the Work as directed.

The Work may be suspended in whole or in part by order of the Owner's Representative for the convenience of the Owner. The Contractor shall take every precaution to prevent any damage or unreasonable deterioration of the Work during the time it is suspended. Suspension of the Work by the Owner's Representative for the convenience of the Owner may furnish grounds for a claim by the Contractor for additional compensation and/or a time extension, in which case the Contractor, when making a claim, shall comply with the provisions of Article 5.22 - Claims for Additional Compensation.

Upon the failure of the Contractor to carry out the orders of the Owner's Representative or to perform in accordance with the Contract Documents, the Owner's Representative may suspend the Work for such period as may be necessary. Time lost by reason of such suspension, or replacement of improper work or material, shall not furnish any grounds to the Contractor for claiming additional compensation and/or an extension of time and shall not release the Contractor from any liability for damages or for failure to complete the Work within the time prescribed.

In the event that a suspension of Work is ordered in writing by the Owner's Representative due to unsuitable weather or unforeseen conditions, and, in the opinion of the Owner's Representative, the Contractor has prosecuted the Work with due diligence prior to the time of suspension, the Contractor may be due an extension of time.

Where the Contract provides for a time period for completion and the Work is suspended for the convenience of the Owner or unsuitable weather or unforeseen conditions and the Contractor has prosecuted the Work with due diligence, the time period and liquidated damages provision of the Contract shall be tolled until a Notice to Resume Work is issued by the Owner's Representative.

Article 5.26 Final Trimming of Work

The Contractor shall be responsible for all repair to the Work as necessary to overcome deterioration or damage that may occur prior to final inspection. The Contractor at all times shall keep the premises free from accumulation of waste materials, rubbish, and debris. The Contractor shall grade all existing driveways on, and which have been affected by the project within the rights-of-way or easements as directed by the Owner's Representative. At the completion of the Work, all waste materials, rubbish, debris and temporary structures from and about the Project as well as all his tools, construction equipment, machinery, and surplus materials shall have been removed from the Project area. The Work shall be in a neatly trimmed and well-finished condition throughout the Project area at the time of Final Inspection. This Work shall be considered incidental to the contract unless there is a specific contract item for this Work.

At any time during the progress of construction that cleanup is not keeping pace with the rest of the Work in the opinion of the Owner's Representative, the Contractor shall at the direction of the Owner's Representative suspend all operations on the major items of work until the premises are cleaned up to the satisfaction of the Owner. Any additional expense involved will be the sole responsibility of the Contractor, and the Owner will not be held liable for this additional expense.

All street name signs, traffic control signs, mailboxes, newspaper boxes, property corner markers, survey markers, survey monuments, and utility markers removed to facilitate the Work or damaged by the Contractor's operations shall be restored by the Contractor unless otherwise directed. Items damaged by the Contractor during removal, storage, or restoration shall be repaired or replaced in kind by the Contractor. Repairing or replacing damaged items shall be considered incidental to the Contract, and no separate payment shall be made.

Article 5.27 Final Inspection

When the Contractor, by his own comprehensive inspection, has concluded that all Work is completed, all code compliance inspections are performed, and all other contract requirements are fulfilled, he shall notify the Owner's Representative in writing of completion and request a pre-final inspection of the Project. This inspection will be performed in the presence of a representative of the Owner, the Architect/Engineer, and the Contractor. The Contractor will make available copies of all required code compliance inspection reports at this inspection. All deficiencies indicated by this inspection will be listed and promptly furnished to the Contractor for remedial action. When all listed deficiencies have been corrected, the Contractor shall notify the Owner's Representative, and a Final Inspection will be performed. When the Final Inspection verifies correction of the listed deficiencies, the Owner's Representative will issue a Certificate of Completion.

When the Final Inspection reveals uncorrected listed deficiencies, the above outlined procedure shall be repeated and the cost of reinspection will be deducted from any money due the Contractor. This cost will include, but is not limited to, salaries, administrative, and transportation costs.

Article 5.28 Liquidated Damages

For each calendar day that the Substantial Completion and/or Final Acceptance date is delayed beyond the Contract Completion Date, the sum per day listed in the Supplementary Conditions shall be deducted from any monies due the Contractor. After Substantial Completion, the Owner shall deduct from any monies due the Contractor the sum per day listed in the Special Provisions for every calendar day that the Final Acceptance date is delayed beyond the Contract Completion Date. If no money is due the Contractor, the Owner shall have the right to recover said sums from the Contractor or the Surety, or both.

The Contractor acknowledges that the daily amount of the Liquidated Damages provision is not a penalty but rather is a reimbursement for damages that the Owner will sustain by reason of delayed completion. The Contractor further acknowledges that the daily amount of Liquidated Damages is a reasonable alternative to the complex calculations that would otherwise be necessary to determine such damages.

Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of the Owner's rights under the Contract.

Article 5.29 Termination of Contract by Owner

If the Contractor should be adjudged bankrupt; if he should make a general assignment for the benefit of his creditors; if a receiver should be appointed on account of his insolvency; if he should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or proper materials for the efficient prosecution of the Work; or if he should persistently disregard laws, ordinances, or the instructions of the Owner's Representative, or otherwise substantially violate any provisions of the Contract, then the Owner may without prejudice to any other right or remedy and after giving the Contractor and his Surety ten (10) days concurrent written notice, terminate the Contract and take possession of the premises and of all materials, tools, and appliances thereon. Notwithstanding the preceding, the Owner may immediately terminate this contract for default without providing a ten (10) day notice if the Contractor fails, refuses or otherwise does not comply with a written order by the Owner's Representative that may involve issues of safety or a suspension of work issued under Article 5.25 – Suspension of the Work. When the Contractor and Surety are notified of the termination of the Contract, the Owner may demand that the Surety fulfill its obligations under the Performance and Payment Bond. Should the Surety fail to perform its obligations under the Bond upon demand of the Owner, then the Owner may finish the Work by whatever method that the Owner determines expedient. The Contractor and his surety shall be responsible for compensating the owner for all excess costs, including applicable liquidated damages and all added procurement costs incurred in accomplishment of the Contract Work.

In the event that the Owner terminates the Contract, the Owner does not waive any other right or remedy under the Contract or any other right or remedy available at law or equity.

The Contractor may not be allowed to bid on any Owner's contracts for a period of two (2) years following the date of this termination by the Owner.

In the case of termination before completion for any cause whatsoever, the Contractor, if notified to do so by the Owner, shall promptly remove equipment and supplies from the premises of the Owner. Failure to do so will authorize the Owner to remove such equipment and supplies from the premises at the expense of the Contractor.

Article 5.30 Termination of Work for Owner's Convenience

At any time during the term of this contract, the Owner may terminate the Work, in whole or in part, for any reason that the Owner's Representative shall determine to be in the best interest of the Owner. Any such termination shall be effected by delivery of a Notice of Termination to the Contractor, specifying that the termination is for the convenience of the Owner; the extent to which performance of the Work under the Contract is terminated; and the date upon which such termination becomes effective.

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

1. Stop work under the contract on the date and to the extent specified in the Notice of Termination;

2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work under the contract as is not terminated;

3. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;

4. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable, in whole, or in part, in accordance with the provisions of the contract;

5. Submit to the Owner's Representative a list, certified as to quantity and quality, of any or all termination inventory items, excluding items that the Owner's Representative directed or authorized disposition of;

6. Transfer to the Owner's Representative the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Owner;

7. Take such action as may be necessary or as the Owner's Representative may direct for the protection and preservation of the contract-related property that is in the possession of the Contractor and in which the Owner has or may acquire any interest.

The Contractor shall proceed immediately with the performance of the above obligations notwithstanding any delay in determining or adjusting the amount of any item of reimbursable cost under this clause.

When the Owner orders termination of Work, effective on a certain date, all completed Work will be paid for at the contract price. Payment for materials included in the material inventory described in item 5 listed above will be paid at actual cost delivered to the project or storage site, including transportation charges. Allowable total markup on the actual cost shall be fifteen percent (15%).

After receipt of a Notice of Termination, the Contractor shall submit to the Owner's Representative his claim for alleged additional damages or costs not covered above or elsewhere in these specifications as provided in Article 5.22 – Claims for Additional Compensation. In no event, however, will loss of anticipated profits be considered as part of any settlement.

Article 5.31 Use of Completed or Uncompleted Portions

The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, prior to the date specified for completion, and such action and use shall not be considered an acceptance of that Work. If such use by the Owner causes additional expense to the Contractor and/or delay in the Work, the Contractor may be entitled to additional compensation and/or an extension of time. Claims for additional compensation or a time extension shall follow the procedures set forth in Article 5.22 - Claims for Additional Compensation. The Owner shall be responsible for routine maintenance or damages caused by the Owner's use of such portions of the Work.

Article 5.32 Preconstruction Conference

Within five (5) days after delivery of the executed agreement by the Owner to Contractor, but before the Contractor begins the Work at the site, a Preconstruction Conference will be held to review the contractor's schedules and plans, to establish procedures for handling shop drawings and other submissions, to establish procedures for submitting and processing applications for payment, and to establish a working understanding between the parties as to the project. The Owner or his Representative, the Architect/Engineer, the Inspector, and the Contractor and his Superintendent and key Subcontractors' representatives will be present at the meeting. Construction Progress Meetings will be conducted each month on a scheduled basis to review work progress, schedules, and other matters requiring discussion and resolution. At a minimum, the Owner, Architect/Engineer, and Contractor's Project Manager, or their representatives,

will attend the Construction Progress Meetings, which will be conducted on the project site.

SECTION 00 72 13.06 LEGAL RELATIONS AND RESPONSIBILITIES

Article 6.1 Laws to Be Observed

The Contract shall be governed by the laws of the State of Alaska. The Contractor at all times shall observe and comply with all federal, state, and municipal laws, ordinances, and regulations in any manner affecting the conduct of the Work and all such orders or decrees existing or which may be enacted or promulgated by legislative bodies, boards, tribunals, or courts having any jurisdiction or authority over the Work. The Contractor shall defend, indemnify, and hold harmless the Municipality and the officers, employees, and agents of the Owner, including the Architect/Engineer, against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, or decrees, whether such violations be by the Contractor, his Subcontractor, or his employees.

Article 6.2 Notice to Contractors

Any written notice to the Contractor by the Owner shall be served on said Contractor or his representative either personally or by mailing to the address given in the Contract.

Article 6.3 Notice by Contractors

Any notice to the Owner by the Contractor shall be made in writing and shall be delivered to the Owner's Representative or his representative in person or mailed to the office of the Owner's Representative at the address given in the official Notice to Proceed.

Article 6.4 Successors and Assigns

The Contractor binds himself, his partners, successors, assignees, and legal representatives to the Owner with respect to all covenants, conditions, and obligations contained in the Contract Documents.

Article 6.5 Assignments

The Contractor shall not assign the whole or any part of the Contract or any monies due or to become due the Contractor without written consent of the Owner. If the Contractor assigns all or any part of any monies due or to become due him, the instrument of assignment shall state that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms, and corporations who performed Work or supplied materials under the Contract.

Article 6.6 Permits

All permits or licenses not required to be obtained by the Owner but which are required by any federal, state, or municipal governmental agency or any public utility shall be obtained and paid for by the Contractor when such permits or licenses are necessary for the prosecution of the Work. The Contractor shall be responsible for all stipulations of these permits and shall be responsible for all costs associated with these permits and their stipulations.

It will be the Contractor's responsibility to give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the Work as specified herein. The Contractor shall also be responsible for requesting all code compliance inspections.

The Owner will obtain the required permits and authorizations for Work within the Alaska Railroad Corporation rights-of-way and permits from the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the Alaska Department of Fish and Game. Prior to the start of construction within the scope of such permits, the Contractor shall obtain the necessary approvals and permits relating to the method, plan, and exact schedule of construction for any Work within such rights-of-way, creeks, and wetlands. Failure on the part of the Contractor to comply with any of the stipulations of any of the applicable Owner- or Contractor-acquired permits shall be sufficient cause for the Owner to suspend that Work.

The payment of basic and special fees, established under Anchorage Municipal Code (AMC) Chapter 24.30, AMC 24.30.100.A, AMC 24.30.100.B, and AMC 24.30.100.F,

Permit Fees for Permanent Uses of Public Places (street use ordinance), and which are applicable to the Work, shall not be the responsibility of the Contractor. These fees shall not be considered a bid item, nor shall they be considered incidental to any bid item.

The Contractor shall be responsible for applying for permits and fulfilling all other requirements of the MASS, the Municipal Code, and the Director of the Municipality of Anchorage’s Office of Planning, Development, and Public Works pertinent to the approval and issuance of the permits.

The Contractor shall obtain and pay for all permits, deposits and connection fees for tapping any required water and/or wastewater service connection permits for new and disrupted service connections.

Article 6.7 Copyrights and Patents

The Contractor shall defend, indemnify, and hold harmless the Municipality, its officers, its employees, and agents of the Owner, including the Architect/Engineer, from any and all claims, suits, or actions brought for the infringement of any copyright or patent claimed to be infringed by any material, devices, drawings, method, or process to be

incorporated in the Work and/or required to be used in connection with the Work, including all attorney's fees and costs.

Article 6.8 Safety

The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons (including employees, Owner's Representatives, and the public) and property during performance of the Work. This requirement shall apply continuously twenty-four (24) hours per day, seven (7) days per week and shall not be limited to normal working hours. Safety provisions shall conform to the rules and regulations established by the U.S. Department of Labor, the Occupational Safety and Health Administration (OSHA), the State of Alaska Occupational Safety and Health Section (OSH), as well as all other applicable federal, state, or municipal laws, ordinances, codes, the requirements set forth below, and any regulations that may be detailed on other parts of the Contract Documents. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth herein.

The Contractor shall develop and maintain, for the duration of this Contract, a safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program and shall notify the Owner's Representative of the name and contact phone number for this person prior to commencement of the Work.

The duty of the Owner's Representative to conduct construction review of the Work does not include review or approval of the adequacy of the Contractor's safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.

If death, serious injuries, or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Architect/Engineer and the Owner. In addition, the Contractor must promptly report in writing to the Owner's Representative all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on, or adjacent to, the site, giving full details and statements of witnesses.

If a claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Owner's Representative, giving full details of the claim.

Failure to comply with all applicable safety rules and regulations, notwithstanding any other provision of the Contract, is sufficient cause for termination under the provisions of the Contract.

Article 6.9 Insurance

Before signing the Contract or commencing the Work or allowing any Subcontractor to commence Work, the Contractor shall obtain all insurance required under this Article. The Contractor shall maintain this insurance until the Final Acceptance Date. The Contractor shall file with the Purchasing Officer as verification of insurance a certificate of insurance on the forms furnished, showing the type and amounts of insurance, the policy number, the expiration date, and the signature of an authorized representative of the insurance company. The insurance company must provide written notification to the MOA contract administrator of any material change, cancellation, or non-renewal of the insurance policies. If the insurer does not notify the MOA in these circumstances, it will be the contractor's responsibility to make that notification. All insurance policies required under this Article shall name the Municipality as an additional insured for the purposes of the Project and shall contain a waiver of subrogation against the Municipality.

The Contractor shall provide the following types of insurance:

Workers' Compensation	**Minimum Limits**
$500,000 Employers Liability and Workers' Compensation as required by Alaska State Workers' Compensation Statutes	Statutory

Commercial General Liability	**Minimum Limits**
Bodily Injury and Property Damage Liability Premises Operations including explosion, collapse and underground; Products and Complete Operations; Broad Form Property Damage; Blanket Contractual; Personal Injury; Owner's/Contractor's Protection	$1,000,000 Combined Limit Each Occurrence and $2,000,000 Aggregate

Commercial Automobile Liability	**Minimum Limits**
Bodily Injury and Property Damage, including all owned, hired, and non-owned automobiles	$1,000,000 Combined Limit per Occurrence

When specified in the Supplementary Conditions**,** the Contractor shall provide the following additional coverages:

Coverages	**Minimum Limits**
Federal Longshoremen and Harbor Workers Compensation Act :	Statutory
Federal Maritime Liability Law (Jones Act:)	$1,000,000
Builder's Risk:	Total Contract Amount

NOTICE TO “OUT OF STATE” CONTRACTORS:

A Certificate of Insurance for Alaska Worker’s Compensation, or an “other states” endorsement on your home state Worker’s Compensation policy, is required prior to execution of a Contract or commencement of any contract performance, if any in-state visits or Work is required or anticipated.

Article 6.10 Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless the Municipality and the Architect/Engineer and their agents and employees from and against all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (1) is attributable to bodily injury, sickness, disease, death, or personal injury or to injury to or destruction of tangible property including the loss of use resulting therefrom; and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by the Contractor or Subcontractors, or anyone for whose acts the Contractor or Subcontractors may be liable, regardless of whether or not the claim, damage, loss, or expense is caused in part by a party indemnified hereunder.

In any and all claims against the Municipality or the Architect/Engineer or their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under Worker's Compensation acts, disability benefit acts, or other employee benefit acts.

Article 6.11 Claims by Workers, Suppliers, and Subcontractors

In the event the Contractor or any Subcontractor fails, neglects, or refuses to make prompt and full payment for labor, services, materials, supplies, or provisions furnished by any person in connection with the Work, then the Owner may withhold the amount due from the Contractor's progress payments provided that an affidavit of claim on the form furnished is filed with the Owner’s Representative. The withholding by the Owner does not relieve the Contractor or his Surety from their obligations with respect to the payment

of such claims. Sums withheld from progress payments will be disbursed pursuant to Article 7.5 - Payment of Claimants.

Article 6.12 Certified Payroll

The Contractor shall file a certified payroll on Friday of each week that covers the preceding week; the payroll shall be filed with the State of Alaska Department of Labor, Labor Standards and Safety Division, Wage and Hour Administration.

Article 6.13 Lawsuits

If a lawsuit is filed by the Contractor or his Surety against the Municipality or by the Municipality against the Contractor or his Surety, the suit shall be commenced in the Superior Court, Third Judicial District, in Anchorage, Alaska.

If one of the questions at issue is the satisfactory performance of the Work by the Contractor, and should the appropriate Court decide that the Work of the Contractor was unsatisfactory, then the Contractor or his Surety shall reimburse the Owner for all legal and all other expenses incurred by the Owner because of the lawsuit as may be allowed and set by the Court. Further, it is agreed that the Owner may deduct such costs from any sum or sums then due or that may become due the Contractor under the Contract.

If any clause or condition of the Contract is held as a matter of law to be unenforceable or unconscionable, the remainder of the Contract shall be enforceable without such clause.

Article 6.14 Preference to Local Labor

The Contractor shall comply with the Provisions of Title 36, Chapter 10 of the Alaska Statutes requiring employment preference for Alaska residents.

Article 6.15 State of Alaska Prevailing Wage Scale

The Contractor shall comply with the Provisions of Title 36 of the Alaska Statutes for the payment of prevailing wages to their employees.

If the contract contains State of Alaska wage rates and a federal wage decision, the Contractor and all Subcontractors shall comply with both wage decisions. The Contractor and all Subcontractors shall be responsible for paying the higher pay rate between the state and federal wage decisions. Additionally, the Contractor and all Subcontractors shall be responsible for providing certified payrolls, to the State of Alaska Department of Labor, Wage and Hour Division on a weekly basis, using the appropriate agency's form(s) and, upon request to the Contract Administrator.

Article 6.16 Nondiscrimination

The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, or marital status or any employee or applicant who is a "qualified individual with a disability"

(As defined in the Americans with Disabilities Act of 1990). The Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry, age, sex, marital status, or mental or physical impairment/disability. Such action shall include, without limitation, the following: employment, upgrading, demotion, or transfer; recruitment or recruiting advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

The Contractor shall state in all solicitations or advertisements for employees for the Work that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, age, sex, marital status, or mental or physical impairment/disability.

The Contractor shall include the provisions of the first two paragraphs of this section in every subcontract or purchase order under this contract, so as to be binding upon every such Subcontractor or vendor of the Contractor under this contract.

Article 6.17 Rights and Remedies

The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the Owner available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

The failure of the Owner or the Architect/Engineer to insist in any one or more instances upon the strict performance of any one or more of the provisions of the Contract, or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise of such right(s), and the rights shall continue unchanged and remain in full force and effect.

Article 6.18 Payment of Taxes

As a condition of performance of this contract, the Contractor shall pay all municipal taxes incurred by the Contractor. Payment of such taxes is required before the Municipality will issue any payment to the Contractor for Work.

SECTION 00 72 13.07 MEASUREMENT AND PAYMENT

Article 7.1 Payment to Contractor

The contract amount shall be lump sum as stated in the contract and shall include any authorized adjustment(s). The contract amount represents the total amount payable to the Contractor by the Owner for performance of the Work as required by the Contract Documents.

Prior to the first application for payment, the Contractor shall submit a Schedule of Values (as described in Article 5.3 – Construction Progress Schedule and Schedule of Values), which outlines material and labor in categories that allocate portions of the Work in a detailed manner. The allocations, at a minimum, shall address the portions of the Work listed in the Table of Contents of the Specifications.

Article 7.2 Scope of Payment

The Contractor shall accept the compensation as herein provided in full payment for the Work. The Contractor shall do all things necessary to perform and to complete the Work according to the Contract Documents, including but not limited to furnishing all labor, tools, implements, machinery, supplies, materials, water, heat, utilities, transportation, and permits necessary to perform the Work. The Contractor shall be responsible for all loss, damage, or liability arising from the nature of the Work, from the action of the elements, or from any unforeseen difficulties that may be encountered. Work paid for under one item will not be paid for under another item.

The contract price shall constitute full compensation for furnishing all labor, equipment, and materials and performing all operations required to complete the Work as specified and as shown on the drawings or otherwise directed. Notwithstanding the omission or mention of any incident or incidental Work, the contract price and payment shall also constitute full compensation for all work incident or incidental to completion of the items, unless such Work is otherwise specifically mentioned for separate payment under another bid item. In the event any Work is required by the specifications or by the bidding schedule and is not directly incident or incidental to the completion of any such items, the contract price or prices for all enumerated items shall also constitute full compensation of such Work.

In this Section 00700.07, the terms "construct, furnish, install, erect, place, and prepare," shall be construed to mean that the bid item(s) is (are) complete, in place, and approved by the Owner’s Representative.

Article 7.3 Advances on Materials

The Contractor may request advance payment for materials to be incorporated in the Work, provided such materials are delivered and stored at the site or, if approved by the Owner’s Representative, at another site within the Municipality. The Contractor shall be solely responsible for the protection of these materials. Only the Contractor’s costs of materials (including freight), as verified by invoices, will be considered for such advance payments by the Owner.

No payment for materials shall be made on any single class of material the value of which is not at least $5,000. No advance shall be made for fuels, supplies, forms, lumber, falsework, or other materials or on temporary structures of any kind that will not become an integral part of the finished construction.

The Contractor shall make available to the Owner's Representative evidence of payment for the materials for which it is requesting advances and of insurance to ensure replacement if such material is lost, stolen, or damaged; and other information the Owner's Representative may request.

Article 7.4 Progress Payments

The Contractor shall submit to the Owner's Representative an Application for Payment, on the forms furnished, supported by such data as the Owner's Representative may require that substantiate the Contractor's right to payment for Work done during the preceding calendar month. The Owner's Representative will, within eight (8) days after receipt of the Application for Payment, either approve a Partial Payment Estimate and present it to the Contractor for signature or notify the Contractor in writing of his reasons for withholding approval. Approved Partial Payment Estimates shall be received by the Owner within two (2) days after execution by the Contractor.

The Owner will process Partial Payment Estimates and make payment to the Contractor within fifteen (15) days of receipt of the Partial Payment Estimate. If the Owner fails to make payment to the Contractor within thirty (30) days (twenty-one [21] days if the project is funded with State of Alaska grants) of receipt of the Application for Payment, the Contractor may, upon seven (7) days written notice to the Owner, suspend the Work. The Contractor shall take every precaution to prevent any damage or unreasonable deterioration of the Work during the time it is suspended.

Retainage: For projects where a Performance and Payment Bond is required, under Article 3.5 – Bonds and Insurance, progress payments at one hundred percent (100%) of the estimated value of the work accomplished, less all previous payments, shall be made to the Contractor, and no retainage shall be deducted, except as provided under the withholding provisions of this Article (Article 7.4).

For projects where a Performance and Payment Bond is not required under Article 3.5 – Bonds, Insurance. The Owner will retain ten percent (10%) of the total earnings to date until the Work is completed and accepted. However, if the Owner at any time after fifty percent (50%) of the Work has been completed determines that satisfactory progress is maintained, the Owner may continue to hold the retainage to date and authorize progress payments to the Contractor in full for Work performed beyond the fifty percent (50%) stage of completion. After ninety-five percent (95%) of the Work has been satisfactorily completed, the Owner may reduce the retention to two percent (2%) of the earnings to date. Interest on retainage shall accrue at the rate of eight percent (8%) per annum, simple interest, or, when the State of Alaska is to provide a grant for all or part of the

funding for the Work, the rate of interest will be equal to the amount set out in Alaska Statute (AS) 45.45.010(a).

No interest shall accrue and no interest shall be paid on sums that are withheld as provided for hereinafter.

Withholding: The Owner's Representative may withhold from a progress payment for any of the following reasons:

1. Defective Work;

2. Claims made directly against the Municipality alleging an act or omission on the part of the Contractor, Subcontractors, or their agents in connection with the Work;

3. Damage to the Municipality;

4. Reimbursements for Work done by the Owner because of any failure to carry out the Work in accordance with the Contract Documents;

5. Uncompleted incidental work, not earning direct payment, including but not limited to testing, cleanup, updating of progress schedules, and preparation of Record Documents and Operation and Maintenance Manuals;

6. Liquidated damages;

7. Claims by Subcontractors, suppliers, laborers, or the Alaska Department of Labor.

The amount of any withholding for items 1-5 listed above shall be the reasonable value of the Work or remedy to be accomplished as estimated by the Owner's Representative, without regard to bid amount or cost to the Contractor. The amount of withholding for items 6-8 shall be in accordance with the claimed amount or the applicable contract provisions.

Progress payments shall not be construed as an acceptance or approval of any part of the Work covered thereby, and they shall in no manner relieve the Contractor of responsibility for correcting defective workmanship or material.

The estimates upon which progress payments are based are not represented to be accurate estimates, and all quantities shown therein are subject to correction on any subsequent pay estimate. If the Contractor uses such estimates as a basis for making payment to Subcontractors, he does so at his own risk, and he shall bear all loss that may result.

The making of progress payment under the Contract, either before or after the date set for completion of the Work, shall not operate to invalidate any of the provisions of the Contract or to release the Surety.

Article 7.5 Payment of Claimants

Any claim received by the Owner's Representative against the Contractor or Subcontractors from any material men, laborer, supplier, Subcontractor, or the Alaska Department of Labor will be forwarded to the Contractor by certified mail as soon as practical following receipt by the Owner's Representative. Within twenty-one (21) days after the Contractor's receipt of the said notice, the Contractor shall notify the Owner's Representative in writing by Certified Mail that the said claim is contested or provide proof that the claim has been satisfied. If the Contractor contests the claim, the Contractor shall describe in detail how the Subcontractor was paid or why the Subcontractor should not be paid and furnish the 3-point statement described below. If the Contractor does not respond during the time allotted above, this lack of notice shall constitute consent by the Contractor to have the owner pay the claim from the earnings of the Contractor.

The Owner shall not be responsible to the Contractor if the Contractor subsequently contests the validity of the claim. Sums withheld pursuant to disputed claims will not be paid to the claimant except where compelled by legal authority. Such sums may be paid to the Contractor upon the filing of a 3-point statement by the Contractor and his Surety on the form furnished by the Owner's Representative stating that: (1) the Contractor contests the validity of the claim, (2) the Surety acknowledges responsibility for the payment of the claim in the event it is valid, and (3) that the Contractor and the Surety specifically agree to hold the Municipality harmless for making payment to the Contractor of the sums withheld.

In the event that the Contractor revokes consent to pay a claimant as provided herein and refuses to execute the said statement referenced above, the Municipality may institute an interpleader action in Superior Court, Third Judicial District, and all Court costs and attorney's fees incurred by the Municipality shall be paid by the Contractor or the Surety. Claimants are not intended beneficiaries of this Article and shall have no recourse against the Municipality for any failure to pay claims from sums withheld from the Contractor.

Article 7.6 Final Payment

Upon completion of the Work and issuance of a certificate of completion by the Owner's Representative, the Contractor shall submit a request to the Owner's Representative for the final payment. The retainage shall be held by the Owner for a period of not less than ninety (90) days following the Final Acceptance of the Work. No final payment shall be made until the Contractor has filed with the Owner's Representative, prior to acceptance of the Work, a notarized Certificate of Compliance as follows:

> I (we) hereby certify that all Work has been performed and materials supplied in accordance with the Contract Documents for the above Work; that not less than the prevailing rates of wages as required by the State of Alaska statute have been paid to laborers, workers, and mechanics; that all payroll taxes have been paid; and that all claims for material and labor and other services performed in connection with these Contract Documents have been satisfied.

There shall be deducted from the final payment any sums withheld pursuant to Article 7.5 - Payment of Claimants.

Article 7.7 Correction of Work After Final Payment

Neither the final payment nor any progress payment shall relieve the Contractor of his responsibility for paying all costs resulting from defects in materials or workmanship supplied under the terms of this contract, and for correction of those defects, for a period of one (1) year following the Final Acceptance Date. The Owner shall give notice of observed defects with reasonable promptness. The Contractor shall initiate corrective action within five (5) days after written notification from the Owner, or the Owner will make other provisions to complete the Work, and all costs shall be paid by the Contractor.

END OF SECTION

MAINTENANCE AND OPERATIONS

ANCHORAGE SENIOR CENTER GARAGE ADDITION

SUPPLEMENTARY CONDITIONS

SECTION 00 72 13.02 BIDDING REQUIREMENTS AND CONDITIONS

Article 2.2 Interpretation or Correction of Bidding Documents

Add the following definition:

The following supplements, modifies, changes, deletes from or adds to the Section 00 72 13 of the Municipality of Anchorage - Standard Specifications-Building (MASSB). Where any Article, Paragraph, Subparagraph, or Clause is modified, or added by these Supplementary Conditions, the unaltered provisions of the Article, Paragraph, Subparagraph, or Clause shall remain in effect. If the Supplementary Conditions conflict with any general condition it shall supersede the conflicting item.

SECTION 00 72 13.03 AWARD AND EXECUTION OF CONTRACT

Article 3.4 Action on Bids

Paragraph seven (7) Modify the following:

The Purchasing Officer will give a written, signed Notice of Award or rejection within sixty (60) days of Bid opening when the Bid amount exceeds $500,000 or more.

Article 3.6 Execution of Contract

Paragraph four (4) Modify the following:

The Municipality will supply the Contractor with the Contract Documents, which includes the ITB (Invitation to Bid) Book and Drawing Set; the Contractor may request additional copies which the Municipality will supply, up to (4) sets.

Article 3.7 Contractor's Warranty

At the end of Paragraph one (1) Add the following:

The Contractor shall extend to the Municipality such other bond, warranty of manufacturer or any other guarantee given on any material, goods, equipment, or workmanship included in the work.

SECTION 00 72 13.05 CONTROL OF WORK

Article 5.23 Time for Completion of Work

Add the following at the end of paragraph one:

All work shall be completed within **180** calendar days after receipt of Notice to Proceed.

Article 5.28 Liquidated Damages

Add the following at the end of paragraph one:

Liquidated damages under this contract will be $250.00 per day.

Article 5.7 Submittal List

Remove this Article completely.

SECTION 00 72 13.06 LEGAL RELATIONS AND RESPONSIBILITIES

Article 6.6 Permits

Add the following after paragraph three:

The plans have been reviewed for code compliance by Building Safety the permit number is **C21-1102/X23-1009**. The Contractor shall use this permit number to identify this project to Building Safety. The Contractor shall provide a Type 2 SWPPP to Building Safety plan review for approval. The Contractor shall Provide a written statement with information to include Haul route, hours of operation, type of material, source of fill, disposition of excavation to Building Safety plan review for approval. inspections required to obtain the Certificate of Occupancy shall be the responsibility of the contractor. The Contractor shall obtain certificates of inspection from the appropriate municipal, state, or federal inspector and submit them to the Contract Administrator. The Contractor shall provide the Contract Administrator with a copy of the issued permits and invoice for the first progress payment. The Contractor shall provide the Contract Administrator a copy of the Certificate of Occupancy with the final invoice for the project.

Special Inspections:
Special Inspections will be paid for by the Municipality of Anchorage. The Contractor shall be responsible for scheduling special inspections sufficiently in advance of when needed and assuring that the work is ready to be inspected when the inspector is scheduled to visit. The Municipality of Anchorage will not pay for re-inspections caused by the Contractor's failure to be prepared for an inspection scheduled by the Contractor.

Article 6.9 Insurance
The insurance requirements in Section 00 62 16 superseded the requirements in the General Conditions 00 72 13 Article 6.9.

EQUAL EMPLOYMENT OPPORTUNITY SPECIAL PROVISIONS

CONTRACT COMPLIANCE SPECIFICATIONS

Every municipal contract shall include language substantially the same as the following: The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, sexual orientation, gender identity, marital status, or physical or mental disability. The contract will comply with all laws concerning the prohibition of discrimination including, but not limited to, Title 5 and Title 7 of the Anchorage Municipal Code.

Every municipal contract shall state, in all solicitations or advertisements for employees to work under the contract, that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, age, sex, sexual orientation, gender identity, marital status, or physical or mental disability.

Laborers' & Mechanics' Minimum Rates of Pay

Title 36. Public Contracts AS 36.05 & AS 36.10 Wage & Hour Administration Pamphlet No. 600 (Pamphlet 600) is hereby incorporated in its entirety. Pamphlet 600 is available for free download at http://www.labor.state.ak.us/lss/forms/pam600.pdf
The Municipality of Anchorage will include a paper copy of the wage rates in the signed Contract.

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes Cast-in-Place Concrete for Following Items:
   1. Slabs on grade.

B. Related Requirements:
   1. Section 032000 - Concrete Reinforcing: Requirements for reinforcing steel and supports.

1.2 REFERENCE STANDARDS

A. American Concrete Institute:

   1. ACI 301 - Specifications for Structural Concrete.
   2. ACI 305R - Guide to Hot Weather Concreting.
   3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
   4. ACI 308.1 - Specification for Curing Concrete.
   5. ACI 318 - Building Code Requirements for Structural Concrete.

1.3 SUBMITTALS

A. Design Data:

   1. Submit concrete mix design for each concrete strength.
   2. Submit separate mix designs if admixtures are required for following:

      a. Hot and cold weather concrete Work.
      b. Air entrained concrete Work.

   3. Identify mix ingredients and proportions, including admixtures.
   4. Identify chloride content of admixtures and whether or not chlorides were added during manufacture.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of embedded utilities and components concealed from view in finished construction.

1.5 QUALITY ASSURANCE

A. Perform Work according to ACI 301.

B. Comply with ACI 306.1 when pouring concrete during cold weather.

C. Acquire cement and aggregate from one source for Work.

1.6 AMBIENT CONDITIONS

A. Maintain concrete temperature after installation at minimum 50 degrees F for minimum seven days.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete:

1. Cement:

a. Comply with ASTM C150, Type II/IIA.
b. Type: Portland.

2. Lightweight Aggregate:

a. Comply with ASTM C330.
b. Coarse Aggregate Maximum Size: According to ACI 318.

3. Water:

a. Comply with ACI 318.
b. Potable, without deleterious amounts of chloride ions.

B. Admixtures:

1. Air Entrainment: Comply with ASTM C260.

2. Plasticizing:

    a. Comply with ASTM C1017.

2.2 CONCRETE MIX

A. Performance and Design Criteria:

1. Compressive Strength: per Drawings
2. Cement Type: ASTM C150/.
3. Aggregate Type: Normal weight.
4. Air Content: per Drawings.

B. Admixtures:

1. Include admixture types and quantities indicated in concrete mix designs only if approved by Architect/Engineer.
2. Cold Weather:
    a. Use of admixtures will not relax cold-weather placement requirements.

C. Average Compressive Strength Reduction: Not permitted.

D. Ready-Mixed Concrete: Mix and deliver concrete according to ASTM C94.

E. Site-Mixed Concrete: Mix concrete according to ACI 318.

2.3 ACCESSORIES

A. Vapor Retarder:

1. Description: Clear polyethylene film.
2. Comply with ASTM E1745, Class A.
3. Thickness: Per Drawings.
4. Type: As recommended for below-grade application.
5. Joint Tape: As recommended by manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify requirements for concrete cover over reinforcement.

3.2 PREPARATION

A. Previously Placed Concrete:

1. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
2. Remove laitance, coatings, and unsound materials.

B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.

C. Remove debris and ice from formwork, reinforcement, and concrete substrates.

D. Remove water from areas receiving concrete before concrete is placed.

3.3 INSTALLATION

A. Placing Concrete:

1. Place concrete according to ACI 301.
2. Ensure that reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
3. Install vapor retarder under interior slabs on grade according to ASTM E1643.
4. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
5. Repairs:

    a. Repair vapor retarder damaged during placement of concrete reinforcement.
    b. Using vapor retarder material, lap over damaged areas minimum [6] <_____> inches and seal watertight.

6. Joint Filler:

    a. Separate slabs on grade from vertical surfaces with joint filler.
    b. Place joint filler in floor slab pattern placement sequence; set top to required elevations; secure to resist movement by wet concrete.
    c. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface.

7. Deposit concrete at final position, preventing segregation of mix.
8. Place concrete in continuous operation for each panel or section as determined by predetermined joints.
9. Consolidate concrete.
10. Maintain records of concrete placement, including date, location, quantity, air temperature, and test samples taken.
11. Place concrete continuously between predetermined expansion, control, and construction joints.
12. Do not interrupt successive placement and do not permit cold joints to occur.]

13. Saw-Cut Joints:

    a. Saw-cut joints within 12 hours after placing.
    b. Use 3/16 inch thick blade.
    c. Cut into 1/4 depth of slab thickness.

14. Screeding:

    a. Screed slabs on grade level.

B. Concrete Finishing:
1. Finish concrete floor surfaces according to ACI 301.
2. Steel trowel surfaces indicated to be exposed.
3. In areas with floor drains, maintain floor elevation at walls and pitch surfaces uniformly to drains as indicated on Drawings.

C. Curing and Protection:

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period as necessary for hydration of cement and hardening of concrete.
3. Cure concrete according to ACI 308.1.

3.4 FIELD QUALITY CONTROL

A. Perform inspection and testing according to applicable code.

B. Provide unrestricted access to Work and cooperate with appointed testing and inspection firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.

D. Concrete Inspections:

1. Continuous Placement Inspection: Inspect for proper installation procedures.
2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.

E. Field Testing:

1. Slump Test Method: Comply with ASTM C143.
2. Air Content Test Method: Comply with ASTM [**C173**] [**C231**].
3. Temperature Test Method: Comply with ASTM C1064.
4. Compressive Strength Concrete:

    a. Measure slump and temperature for each sample.

b. Measure air content in air-entrained concrete for each sample.

F. Patching:

1. Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.
2. Honeycombing or Embedded Debris in Concrete:

   a. Not acceptable.
   b. Notify Architect/Engineer upon discovery.

3. Patch imperfections according to ACI 301.

G. Defective Concrete:

1. Description: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
2. Repair or replacement of defective concrete will be determined by Architect/Engineer.
3. Do not patch, fill, touch up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

END OF SECTION 03 30 00

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.

1.2 REFERENCE STANDARDS

A. American Concrete Institute:

1. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures and Related Commentaries.

1.3 COORDINATION

A. Coordinate Work of this Section with installation of structural framing supported by masonry application of water-repellent coatings.

1.4 SUBMITTALS

A. Product Data:

1. Submit data for masonry units, anchors, and other accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

C. Source Quality-Control Submittals: Indicate results of factory tests and inspections.

D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

E. Qualifications Statements:

1. Submit qualifications for installer.

1.5 QUALITY ASSURANCE

A. Perform Work according to ACI 530/530.1.

1.6 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this Section with minimum three years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Inspection: Accept units on-Site. Inspect for damage.

1.8 AMBIENT CONDITIONS

A. Do not store reinforcing material directly on ground. Utilize blocking and other methods to prevent rust on accessories prior to installation.

B. Cold Weather Requirements: According to ACI 530.1 when ambient temperature or temperature of masonry units is less than 40 degrees F.

1.9 EXISTING CONDITIONS

A. Field Measurements: Verify elevations, dimensions, and alignment of foundations and other supporting construction prior to beginning Work.

PART 2 - PRODUCTS

2.1 PERFORMANCE AND DESIGN CRITERIA

A. Concrete Masonry Compressive Strength (f'm): per construction documents.

2.2 MATERIALS

A. CMU Size: Nominal modular size of 8 inch by 8 inch by 16 inch.

2.3 ACCESSORIES

A. Reinforcing Steel: ASTM A615, 60 ksi yield grade, deformed billet bars, uncoated finish.

B. Anchor Rods: Per construction documents.

1. Hot-Dip Galvanizing: ASTM A153.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and ready to receive Work.

B. Verify that items provided by other Sections of Work are properly sized and located.

C. Verify that built-in items are in proper location and ready for roughing into masonry Work.

3.2 PREPARATION

A. Direct and coordinate placement of metal anchors supplied to other Sections.

B. Furnish temporary bracing during installation of masonry Work. Maintain in place until building structure provides permanent support.

C. Wet clay and shale brick before laying when initial rate of absorption is greater than 30 g per min./30 sq. in. when tested according to ASTM C67.

3.3 INSTALLATION

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.

C. Coursing of CMU:

1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.

D. Placing and Bonding:
1. Lay hollow masonry units with face shell bedding on head and bed joints.
2. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
3. Remove excess mortar as Work progresses.
4. Interlock intersections and external corners.

5. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
6. Perform Project Site cutting of masonry units with proper tools to assure straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
7. Cut mortar joints flush where bitumen damp-proofing is applied.
8. Isolate top of masonry from horizontal structural framing members and slabs or decks with compressible joint filler.

E. Reinforced Masonry:

1. Lay masonry units with cells vertically aligned and clear of mortar and unobstructed.
2. Place reinforcement bars as indicated on Drawings.
3. Splice reinforcement as indicated on Drawings.
4. Support and secure reinforcement from displacement.
5. Place and consolidate grout fill without displacing reinforcing.
6. Place grout according to ACI 530.1.

F. Control Joints:

1. Install control joints at the following maximum spacings, unless otherwise indicated on Drawings:

   a. Exterior Walls: 20 feet o.c. and within 24 inches on one side of each interior and exterior corner.
   b. At changes in wall height.

2. Do not continue horizontal joint reinforcement through control joints.
3. Form control joint with sheet building paper bond breaker fitted to one side of hollow contour end of block unit. Fill resultant core with grout fill. Rake joint at exposed unit faces for placement of backer rod and sealant.

G. Cutting and Fitting:

1. Cut and fit for chases, pipes, conduit as required. Coordinate with other Sections of Work to provide correct size, shape, and location.

3.4 TOLERANCES

A. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.

B. Maximum Variation from Plane of Wall: 1/4 inch in 10 feet and 1/2 inch in 20 feet or more.

C. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

D. Maximum Variation from Level Coursing: 1/8 inch in 3 feet and 1/4 inch in 10 feet; 1/2 inch in 30 feet.

E. Maximum Variation of Joint Thickness: 1/8 inch in 3 feet.

F. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

G. Maximum Variation for Steel Reinforcement:

1. Install reinforcement within the tolerances specified in ACI 530.1 for foundation walls.
2. Plus or minus 1/2 inch when distance from centerline of steel to opposite face of masonry is 8 inches or less.
3. Plus or minus 1 inch when distance is between 8 and 24 inches.
4. Plus or minus 1-1/4 inch when distance is greater than 24 inches.
5. Plus or minus 2 inches from location along face of wall.

3.5 FIELD QUALITY CONTROL

A. CMU: Test each type according to ASTM C140.

3.6 CLEANING

A. Remove excess mortar and mortar smears as Work progresses.

B. Replace defective mortar. Match adjacent Work.

C. Clean soiled surfaces with cleaning solution. Coordinate with Work of specified water-repellent or surface coating.

D. Use non-metallic tools in cleaning operations.

3.7 PROTECTION

A. Protect exposed external corners subject to damage.

B. Protect base of walls from mud and mortar splatter.

C. Protect masonry and other items built into masonry walls from mortar droppings and staining caused by mortar.

END OF SECTION 042000

SECTION 05 52 13 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications – Buildings (MASSB), apply to this Section.

1.2 SUMMARY

A. Section Includes the following:

1. Steel tube railings.

1.3 RELATED SECTIONS

A. Section Includes the following:

1. SECTION 09 91 13 – EXTERIOR PAINTING, for painting steel tube railing specified metal stairs to receive handrails specified in this Section.

1.4 SUBMITTALS

A. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
B. Welding certificates.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of railing through one source from a single manufacturer.
B. Welding: Qualify procedures and personnel according to the following:

1. AWS D1.1, "Structural Welding Code--Steel."

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating railings without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.
2. Provide allowance for trimming and fitting at site.

1.7 COORDINATION AND SCHEDULING

A. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
B. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 STEEL AND IRON

A. Tubing: ASTM A 500 (cold formed).

2.3 FASTENERS

A. General: Provide the following:

1. Steel Railings: Plated steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated.
C. Fasteners for Interconnecting Railing Components:

1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
2. Provide tamper-resistant flat-head machine screws for exposed fasteners, unless otherwise indicated.

2.4 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
B. Shop Primers: Provide primers that comply with Division 9 painting Sections.
C. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79.

1. Use primer with a VOC content of 420 g/L (3.5 lb/gal.) or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

D. Paint: Field or shop painted per INTERIOR PAINTING specifications.

2.5 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage.
B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch , unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
D. Form work true to line and level with accurate angles and surfaces.
E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
G. Connections: Fabricate railings with welded connections, unless otherwise indicated.
H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

J. Form changes in direction as follows:

1. By bending.

K. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
L. Close exposed ends of railing members with prefabricated end fittings.

M. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work, unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide fillers made from crush-resistant material, or other means to transfer wall loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

O. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
B. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.7 STEEL AND IRON FINISHES

A. Galvanized Railings:
1. Hot-dip galvanize exterior steel and iron railings, including hardware, after fabrication.
2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.

B. Fill vent and drain holes that will be exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
C. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
D. For nongalvanized steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors to be embedded in exterior concrete or masonry.
E. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed railings:

1. Interior Railings (SSPC Zone 1A): SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."

F. Apply shop primer to prepared surfaces of railings, unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.

1. Do not apply primer to galvanized surfaces.
2. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.
B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in Part 2 "Fabrication" Article whether welding is performed in the shop or in the field.
C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to 1 side, and locate joint within 6 inches of post.

3.4 ATTACHING HANDRAILS TO WALLS

A. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

B. Secure wall brackets to building construction as follows:

1. For wood stud partitions, use hanger or lag bolts set into wood backing between studs. Coordinate with carpentry work to locate backing members.
2. For steel-framed gypsum board partitions, use hanger or lag bolts set into wood backing between studs. Coordinate with stud installation to locate backing members.

3.5 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.6 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units.

END OF SECTION 05 52 13

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Structural wall and roof framing.
2. Built-up structural beams and columns.
3. Shear walls.
4. Wall and roof sheathing.
5. Preservative treatment of wood.
6. Miscellaneous framing and sheathing.

B. Related Requirements:
1. Section 042000: Setting anchors in masonry.
2. Section 061753: Shop fabricated wood trusses.

1.2 REFERENCE STANDARDS

A. APA - The Engineered Wood Association:

1. APA - Plywood Design Specification, including supplements.
2. APA AFG-01 - Adhesives for Field-Gluing Plywood to Wood Framing.
3. APA PS 1 - Voluntary Product Standard - Structural Plywood.

B. ASTM International:
1. ASTM D2559 - Standard Specification for Adhesives for Bonded Structural Wood Products for Use Under Exterior Exposure Conditions.
2. ASTM D5456 - Standard Specification for Evaluation of Structural Composite Lumber Products.
3. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

C. National Lumber Grades Authority:

1. NLGA - Standard Grading Rules for Canadian Lumber.

D. Northeastern Lumber Manufacturers Association:

1. NELMA - Standard Grading Rules for Northeastern Lumber.

E. U.S. Department of Commerce National Institute of Standards and Technology:

1. DOC PS 1 - Structural Plywood.
2. DOC PS 2 - Performance Standard for Wood-Based Structural-Use Panels.
3. DOC PS 20 - American Softwood Lumber Standard.

F. West Coast Lumber Inspection Bureau:

1. WCLIB Standard 17 - Grading Rules for West Coast Lumber.

G. Western Wood Products Association:

1. WWPA - Western Lumber Grading Rules.

1.3 SUBMITTALS

A. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Perform Work according to:

1. Lumber Grading Agency: Certified by DOC PS 20.
2. Wood Structural Panel Grading Agency: Certified by APA - The Engineered Wood Association.
3. Lumber: DOC PS 20.
4. Wood Structural Panels: DOC PS 1 or PS 2.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store materials according to manufacturer instructions.

D. Protection:

1. Protect trusses from warping or other distortion by stacking in vertical position and bracing to resist movement.
2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lumber: Provide lumber as detailed in construction documents.

B. Sheathing:

1. Wood Structural Panel Roof Sheathing:

a. Description: APA-rated plywood.
b. Material: plywood.

2. Wood Structural Panel Wall Sheathing:

a. Description: APA-rated.
b. Material: plywood.

2.2 SHEATHING AND UNDERLAYMENT LOCATIONS

A. Sloped Roof Sheathing:

1. Thickness: Per construction documents.
2. Sheet Size: 48 by 96 inch.
3. Edges: Square.

B. Wall Sheathing:

1. Thickness: Per construction documents.
2. Sheet Size: 48 by 96 inch.
3. Edges: Square.

2.3 FACTORY WOOD TREATMENT

A. Wood Preservative (Pressure Treatment): AWPA U1, Commodity Specifications A-Sawn Products or F-Wood Composites.

B. Moisture Content after Treatment: Re-dried.

1. Lumber: Maximum 19 percent.
2. Structural Panels: Maximum 15 percent.

2.4 ACCESSORIES

A. Fasteners and Anchors:

1. Fasteners:

a. High-Humidity and Treated Wood Locations: ASTM A153, hot-dip galvanized steel.
b. Elsewhere: Unfinished steel.

2. Nails and Staples: Comply with ASTM F1667.

B. Die-Stamped Connectors:

1. Material: Hot-dipped galvanized steel.

C. Structural Framing Connectors:

1. Material: Hot-dipped galvanized steel.
2. Size: To suit framing conditions.

PART 3 - EXECUTION

3.1 APPLICATION

A. Framing:

1. Select individual pieces such that knots and defects will not interfere with placement of bolts when nailing or making connections.
2. Discard defective pieces.
3. Set structural members level, plumb, and in correct position.
4. Fasten framing according to applicable code.
5. Make provisions for erection loads and for sufficient temporary bracing to maintain that structure is safe, plumb, and in alignment until completion of erection and installation of permanent bracing.
6. Place horizontal members crown side up.
7. Construct load-bearing framing members full length without splices.

8. Openings:

    a. Double members at openings over <_____> inches wide.
    b. Space short studs over and under opening to stud spacing.

9. Headers:

    a. Construct double-joist headers at floor openings, ceiling openings, and under-wall stud partitions parallel to floor joists.
    b. Frame rigidly into joists.

B. Sheathing:
1. Fasten sheathing according to applicable code.
2. Secure roof sheathing with longer edge (strength axis) perpendicular to framing members, with ends staggered and sheet ends over bearing.
3. Use sheathing clips between sheets between roof framing members.
4. Place building paper horizontally over wall sheathing and weather-lap edges and ends.
5. Secure wall sheathing to wall studs, with ends over firm bearing and staggered where required.

C. Site-Applied Wood Treatment:
1. Treat Site-sawn cuts by applying preservative according to AWPA M4.
2. Allow preservative to dry prior to erecting members.

3.2 TOLERANCES

A. Framing and Furring Members to Receive a Finished Wall or Ceiling: Align finish surface to vary not more than 1/8 inch from a theoretical plane or surface of the room or space.

B. Other Framing Members: Maximum 1/4 inch from indicated position.

END OF SECTION 06 10 00

SECTION 06 17 53 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Shop-fabricated wood trusses for:

   a. Roof framing.
   b. Bridging, bracing, and anchorage.

2. Preservative treatment of wood.

B. Related Requirements:

1. Section 061000 - Rough Carpentry: Framing of openings between trusses.

1.2 REFERENCE STANDARDS

A. American Wood Protection Association:

1. AWPA M4 - Standard for the Care of Preservative-Treated Wood Products.
2. AWPA U1 - Use Category System: User Specification for Treated Wood.

B. APA - The Engineered Wood Association:

1. APA/EWA Plywood Design Specification.

C. ASTM International:

1. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
3. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
4. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
5. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

6. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
7. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

D. Truss Plate Institute:

1. TPI - Building Component Safety Information (BCSI): Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.
2. TPI DSB - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses.
3. TPI 1 - National Design Standard for Metal Plate Connected Wood Truss Construction.

E. U.S. Department of Commerce - National Institute of Standards and Technology:

1. Voluntary Product Standard PS 1 - Structural Plywood.
2. Voluntary Product Standard PS 2 - Performance Standard for Wood-Based Structural-Use Panels.
3. Voluntary Product Standard PS 20 - American Softwood Lumber Standard.

F. West Coast Lumber Inspection Bureau:

1. WCLIB Standard 17 - Grading Rules for West Coast Lumber.

G. Western Wood Products Association:

1. WWPA G-5 - Western Lumber Grading Rules.

1.3 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit truss plate connections, bearing plates, anchor connections, wind uplift connections, bridging, and bracing.

C. Shop Drawings: Indicate truss sizes, dimensions, spacing of trusses, associated components, uplift connectors, web and chord sizes, plate sizes, fastener descriptions and spacings, loads and truss cambers, and framed openings.

D. Design Calculations: Indicate design loads, truss reactions, and member forces, deflections, and stresses.

E. Manufacturer's/Fabricator's Certificate: Certify that products meet or exceed specified requirements.

F. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for sizes, dimensions, spacing of trusses, associated components,

uplift connectors, web and chord sizes, plate sizes, design loads, truss cambers, framed openings.

G. Qualifications Statements:

1. Submit qualifications for manufacturer/fabricator, erector, and licensed professional.

1.4 QUALITY ASSURANCE

A. Perform Work as follows:

1. Lumber Grading: Certified by DOC PS 20.
2. Plywood Grading Agency: Certified by APA/EWA.
3. Lumber: Comply with DOC PS 20.
4. Wood Structural Panels: DOC PS 1 or DOC PS 2.

B. Truss Design, Fabrication, and Installation: Comply with TPI BSCI, TPI DSB, and TPI 1.

1.5 QUALIFICATIONS

A. Manufacturer/Fabricator: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Licensed Professional: Professional engineer experienced in design of specified Work and licensed in State of Alaska.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site and inspect for damage.

C. Storage:

1. Do not lay trusses flat.
2. Store truss depth in vertical position resting on intermittent bearing pads.

1.7 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.

2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Wood Members:

1. Single top and bottom chord.
2. Minimum 2x6 top and bottom chord.
3. Moisture Content:

   a. Maximum: **19** percent.
   b. Minimum: **7** percent.
   c. Finger scarfing **not permitted**.

B. Steel Plate Connectors:

1. Comply with TPI 1, Section 6.
2. Die stamped with integral teeth.

C. Truss Bridging: Type, size, and spacing as recommended by truss manufacturer/fabricator.

2.2 FABRICATION

A. Fabricate trusses to achieve specified structural requirements.

B. Fabricate chord extensions as indicated on Drawings.

2.3 ACCESSORIES

A. Fasteners and Anchors:

1. Material:

   a. High Humidity and Treated Wood Locations: ASTM B695, Class 55 mechanically galvanized steel.
   b. Elsewhere: Unfinished steel.

2. Nails and Staples: Comply with ASTM F1667.

2.4 SOURCE QUALITY CONTROL

A. Certificate of Compliance:

1. If manufacturer/fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at manufacturer's/fabricator's facility conforms to Contract Documents.
2. Specified shop tests are not required for Work performed by approved manufacturer/fabricator.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate placement of bearing items.

3.2 ERECTION

A. Set members level, plumb, and in correct position.

B. Make provisions for erection loads and sufficient temporary bracing to maintain plumb and aligned structure until completion of erection and installation of permanent bracing.

C. Do not field cut or alter structural members without approval of Architect/Engineer.

D. Place headers and supports to frame openings.

E. Frame openings between trusses with lumber as specified in Section 061000 - Rough Carpentry.

3.3 TOLERANCES

A. Maximum Variation from Indicated Position:

1. Framing Members: 1/2 inch.

END OF SECTION 06 17 53

SECTION 06 64 00 - PLASTIC PANELING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section Includes:

1. Prefinished polyester glass reinforced plastic sheets and adhered trim.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 92 00 – JOINT SEALANTS, for sealant joints applied at plastic panel perimeter and where terminating at different materials.
2. SECTION 09 29 00 – GYPSUM BOARD, for gypsum board substrates to receive plastic panel finishes.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Initial Selection: For FRP paneling and trim accessories.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain plastic paneling and trim accessories from single manufacturer.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 PLASTIC SHEET PANELING (DRAWING DESIGNATION FRP-1)

A. General: Prefinished, glass-fiber reinforced plastic panels.

1. Basis-of-Design Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to the following:

a. “Glasbord” FRP wall panels, by Crane Composites

B. Materials: Provide products complying with the following:

1. Nominal Thickness: 0.09-inch.
2. Panel Size: 4-feet x 10-feet.
3. Surface Finish: Smooth.
4. Color: Gray.
5. Fire Rating: Class C.

C. Trim Accessories: Manufacturer's standard one-piece PVC extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners, and caps as needed to conceal edges.

1. Color: Match FRP panel.

D. Adhesive: As recommended by plastic paneling manufacturer.

E. Sealant: Sealant recommended by plastic paneling manufacturer and complying with requirements in Section 07 92 00 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove wallpaper, vinyl wall covering, loose or soluble paint, and other materials that might interfere with adhesive bond.

B. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.

C. Clean substrates of substances that could impair bond of adhesive, including oil, grease, dirt, and dust.

D. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.

E. Lay out paneling before installing. Locate panel joints to provide equal panels at ends of walls not less than half the width of full panels so that trimmed panels at corners are not less than 12 inches wide.

3.3 INSTALLATION

A. Install plastic paneling according to manufacturer's written instructions.

B. Install panels in a full spread of adhesive.

C. Install trim accessories with adhesive.

D. Fill grooves in trim accessories with sealant before installing panels and bed inside corner trim in a bead of sealant.

E. Maintain uniform space between panels and wall fixtures. Fill space with sealant.

F. Maintain uniform space between adjacent panels and between panels and floors, ceilings, and fixtures. Fill space with sealant.

G. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

3.4 CLEANING

A. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.

B. Refer to manufacturer's specific cleaning recommendations Do not use abrasive cleaners.

END OF SECTION 06 64 00

SECTION 071113 - BITUMINOUS DAMPPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. Section Includes:

1. Cold-applied, cut-back-asphalt dampproofing.

1.3 RELATED SECTIONS

A. Related Sections include the following:
1. SECTION 03 30 00 - CAST-IN-PLACE CONCRETE, for concrete footings and foundations to receive dampproofing specified in this Section.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.5 FIELD CONDITIONS

A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit dampproofing to be performed according to manufacturers' written instructions.

B. Ventilation: Provide adequate ventilation during application of dampproofing in enclosed spaces. Maintain ventilation until dampproofing has cured.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Source Limitations: Obtain primary dampproofing materials and primers from single source from single manufacturer. Provide protection course and auxiliary materials recommended in writing by manufacturer of primary materials.

B. VOC Content: Products shall comply with VOC content limits of this Section, and of authorities having jurisdiction unless otherwise required.

2.2 COLD-APPLIED, CUT-BACK-ASPHALT DAMPPROOFING

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Henry Company.

B. Trowel Coats: ASTM D 4586, Type I, Class 1, fibered.

C. Brush and Spray Coats: ASTM D 4479, Type I, fibered or nonfibered.

D. VOC Content: 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended in writing by dampproofing manufacturer for intended use and compatible with bituminous dampproofing.

B. Cut-Back-Asphalt Primer: ASTM D 41.

C. Asphalt-Coated Glass Fabric: ASTM D 1668, Type I.

D. Patching Compound: Asbestos-free fibered mastic of type recommended in writing by dampproofing manufacturer.

E. Protection Course: Smooth-surfaced roll roofing complying with ASTM D 6380, Class S, Type III.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions with Applicator present, for compliance with requirements for surface smoothness, surface moisture, and other conditions affecting performance of bituminous dampproofing work.

1. Test for surface moisture according to ASTM D 4263.

B. Proceed with application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Mask or otherwise protect adjoining exposed surfaces from being stained, spotted, or coated with dampproofing. Prevent dampproofing materials from entering and clogging weep holes and drains.

B. Clean substrates of projections and substances detrimental to the dampproofing work; fill voids, seal joints, and remove bond breakers if any, as recommended in writing by prime material manufacturer.

C. Apply patching compound to patch and fill tie holes, honeycombs, reveals, and other imperfections; cover with asphalt-coated glass fabric.

3.3 APPLICATION, GENERAL

A. Comply with manufacturer's written instructions for dampproofing application, cure time between coats, and drying time before backfilling unless more stringent requirements are indicated.

1. Apply dampproofing to provide continuous plane of protection.
2. Apply additional coats if recommended in writing by manufacturer or to achieve a smooth surface and uninterrupted coverage.

B. Where dampproofing footings and foundation walls, apply from finished-grade line to top of footing; extend over top of footing and down a minimum of 6 inches over outside face of footing.

1. Extend dampproofing 12 inches onto intersecting walls and footings, but do not extend onto surfaces exposed to view when Project is completed.
2. Install flashings and corner protection stripping at internal and external corners, changes in plane, construction joints, cracks, and where shown as "reinforced," by embedding an

8-inch- wide strip of asphalt-coated glass fabric in a heavy coat of dampproofing. Dampproofing coat for embedding fabric is in addition to other coats required.

3.4 COLD-APPLIED, CUT-BACK-ASPHALT DAMPPROOFING

A. Concrete Foundations: Apply two brush or spray coats at not less than 1.25 gal./100 sq. ft. for first coat and 1 gal./100 sq. ft. for second coat.

3.5 INSTALLATION OF PROTECTION COURSE

A. Where indicated, install protection course over completed-and-cured dampproofing. Comply with dampproofing-material and protection-course manufacturers' written instructions for attaching protection course.

1. Support protection course over cured coating with spot application of adhesive type recommended in writing by protection-board manufacturer.
2. Install protection course on same day of installation of dampproofing (while coating is tacky) to ensure adhesion.

3.6 CLEANING

A. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended in writing by manufacturer of affected construction.

END OF SECTION 07 11 13

SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Glass-fiber blanket insulation.
2. Spray polyurethane foam insulation.

1.3 RELATED SECTIONS

1. Section 08 11 13 - HOLLOW METAL DOORS AND FRAMES, for door frames to receive spray foam insulation as part of installation.
2. Section 09 29 16-GYPSUM BOARD, for gypsum board sheathing as part of assemblies incorporating products of this Section.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

C. Research/Evaluation Reports: For foam-plastic insulation.

1.5 QUALITY ASSURANCE

A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

B. Protect foam-plastic board insulation as follows:

1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site before installation time.
3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. CertainTeed Corporation.
2. Johns Manville.
3. Owens Corning.

B. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

C. Provide blankets in batt or roll form with thermal resistances indicated in drawings.

2.2 SPRAY POLYURETHANE FOAM INSULATION

A. Closed-Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Dow Chemical Company (The).
b. Gaco Western Inc.
c. Henry Company.

2. Minimum density of 1.5 lb/cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in. at 75 deg F.
3. Provide in pre-mixed cans for simplified application at window and door frame rough openings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation or vapor retarders, including removing projections capable of puncturing vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.3 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions.

B. Glass-Fiber Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.

4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

C. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Do not apply insulation until installation of doors and windows, and other items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.

D. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.4 PROTECTION

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

END OF SECTION 07210

SECTION 07 25 00 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes the following:

1. Self-adhered, air/weather barrier sheet membrane, self-adhered transition and flashing membrane, and liquid-applied flashing membrane at door and window openings.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 21 00 – BUILDING INSULATION, for insulation of exterior framed-wall assemblies to receive weather barriers specified in this Section.
2. SECTION 07 26 00 – VAPOR RETARDERS, for vapor retarders.

1.4 PERFORMANCE REQUIREMENTS

A. Material Performance: Provide air/weather barrier system that is water-resistive and having an air permeance not to exceed 0.00003 cubic feet per minute per square foot under a pressure differential of 0.3 in. water (1.57 psf) (0.02 L/sm @ 75 Pa.) when tested according with ASTM E 2178.

B. Self-Adhered, Membrane Air/Weather Barriers: Material shall meet requirements of ICC-ES AC38, “Acceptance Criteria for Water-resistive Barriers”, CCMC Technical Guide 07102, “Sheathing, Membrane, Breather-Type”, and CCMC Technical Guide 07273, “Air Barrier Materials”.

C. Connections to Adjacent Materials: Provide complete air/weather barrier system, including liquid applied flashing membranes and any other accessories or transitions strips, to prevent air leakage at the following locations:

1. Walls, including penetrations, ties and anchors.

2. Walls, windows and doors.
3. Wall and roof connections.
4. Wall pipe and duct penetrations.
5. All other leakage pathways in the building envelope.

1.5 SUBMITTALS

A. Product Data: For each type of product.

1. For air/weather barriers, include data on air and water-vapor permeance based on testing according to referenced standards.

B. Samples: Submit 12-inch x 12-inch manufacturer's sample of weather barrier sheet, and 12-inch long sample of sealing tape and flexible flashing.

C. Evaluation Reports: For weather-resistive barrier, seam tape and liquid applied flashing membranes, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Single Source: Obtain air/weather barrier sheet, seam tape, sealant, flexible flashing, and other accessories from a single manufacturer regularly engaged in manufacturing air and weather barrier products.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver air/weather barrier materials to the project site in original packaging, labeled with manufacturer's information, product name, date of manufacture, and instructions for storage.

B. Store air/weather barrier materials in original undamaged packaging or in a clean, dry, protected location and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.8 PROJECT CONDITIONS

A. Temperature: Install air/weather barrier, seam tape and self-adhering flashing materials within range of ambient and substrate temperatures recommended by manufacturer. Do not apply air/weather barrier, seam tape or self-adhering flashings to a damp or wet substrate.

B. Field Conditions: Do not install air/weather barrier components in snow, rain, fog, or mist. Do not install air/weather barrier materials when the temperature of substrate surfaces and surrounding air temperatures are below those recommended manufacture.

1.9 WARRANTY

A. Material Warranty: Provide manufacturer's system warranty for a period of fifteen years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 AIR/WEATHER BARRIER

A. Self-Adhered, Water-Resistive, Vapor-Permeable Weather and Air Infiltration Barrier Membrane: Zero VOC self-adhered vapor permeable air barrier sheet membrane consisting of multiple layers of UV stabilized spun-bonded polypropylene.

1. Basis of Design: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

    a. WrapShield SA Self-Adhered Water-Resistive Vapor Permeable Air Barrier Sheet by VaproShield.

2. Physical Dimensions: 0.026 inches thick and 59 inches wide and 8.26 oz per sq. yd.
3. Surface Burning Characteristics tested to ASTM E 84: Class A, Flame-spread index of less than 25, Smoke-development index of less than 15.
4. Color: Orange.
5. Allowable UV Exposure Time: Six months maximum.
6. Tensile Strength tested to ASTM D 882: 44.8 lbf/inch, machine direction; 25 lbf/inch, cross-machine direction.
7. Air Leakage: < 0.0000263 cfm/sq.ft. when tested in accordance with ASTM E 2178 and < 0.01 cfm/sq.ft. when tested in accordance with ASTM E 2357.
8. Water Vapor Permeance tested to ASTM E 96 Method B: 50 perms.
9. Water Resistance tested to AATCC 127, 550 mm hydrostatic head for 5 hours: No leakage.
10. Application Temperature: Ambient temperature must be above 20 degrees F.

2.2 AIR/WEATHER BARRIER FLASHING

A. Water-Resistive, Vapor Permeable Transition and Flashing Membrane: Self-adhered air barrier transition and flashing membrane. Zero VOC self-adhered, water-resistive, vapor permeable membrane.

1. Basis of Design: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

    a. VaproFlashing SA by VaproShield.

2. Physical Dimensions: 11-3/4" or 19 2/3" wide x 164 feet long.

3. Color: Orange.
4. Air Leakage: < 0.0000263 cfm/sq.ft. when tested in accordance with ASTM E 2178.
5. Water Vapor Permeance tested to ASTM E 96 Method B: 50 perms.
6. Water Resistance tested to AATCC 127, 550 mm hydrostatic head for 5 hours: No leakage.

B. Liquid-Applied, Water-Resistive, Vapor Permeable Flashing: Window and door flashing.

1. Basis of Design: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

   a. VaproLiqui-Flash Vapor Permeable Liquid Applied Flashing Membrane by VaproShield.

2. Vapor permeance and resistance to air leakage properties compatible with the primary air barrier membrane.

C. Sealants: Provide sealant for penetrations. Provide Dow 758 or VaproLiqui-Flash

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions under which the air/weather barrier will be applied, with installer present, for compliance with requirements. Verify that surfaces and conditions are suitable prior to commencing work of this section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.

1. Prime substrates as recommended by flashing manufacturer.
2. Lap seams and junctures with other materials at least 4 inches except that at flashing flanges of other construction, laps need not exceed flange width.
3. Lap flashing over water-resistive barrier at bottom and sides of openings.
4. Lap water-resistive barrier over flashing at heads of openings.
5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

3.3 AIR/WEATHER BARRIER INSTALLATION

A. Cover exposed exterior surface of sheathing with air/weather barrier immediately after sheathing is installed. Install air/weather barrier over structural sheathing board or insulation, as indicated.

B. Complete detail work around corners, wall openings, building transitions and penetrations prior to field applications. Seal all wall penetrations with self-adhering flashing.

C. Align bottom edge of roll with the base of wall, extending sheet 12-inches around inside or outside corners. Lap air/weather barrier over through-wall flashing a minimum of 6-inches. Lap air/weather barrier over sill plates at least 2-inches.

D. Apply air/weather barrier with printed side out, wrapping the entire building, including window and door rough openings. Ensure upper courses overlap lower courses in water-shedding fashion. Vertical and horizontal seams shall be overlapped a minimum of 6-inches (vertical) and 2-inches (horizontal). Stagger all end lap seams.

E. Roll installed membrane with roller to ensure positive contact and adhesion with substrate.

F. Follow other manufacturer’s installation instructions.

3.4 PROTECTING AND CLEANING

A. Protect air/weather barrier from damage during application and remainder of construction period, according to manufacturer's written instructions.

B. Coordinate installation of materials to cover air/weather barrier, to ensure exposure period does not exceed that recommended by manufacturer.

END OF SECTION 07 25 00

SECTION 07 26 00 – VAPOR RETARDERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes:

1. Polyethylene sheet vapor retarder and related accessories.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 06 10 00 – ROUGH CARPENTRY, for wood framing requiring vapor retarder tabs specified in this Section as part of the framing sequence.
2. SECTION 07 21 00 – THERMAL INSULATION, for building insulation.
3. SECTION 07 25 00 – WEATHER BARRIERS, for air and weather barriers for exterior wall and floor repair areas where indicated or required.
4. SECTIOIN 09 29 16 – GYPSUM BOARD, for metal stud framing at exterior walls requiring vapor retarder tabs specified in this Section as part of the framing sequence.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer’s product data and installation instructions including details of anchors, hardware and fasteners.

B. Submit documentation from an approved independent testing laboratory certifying vapor permeance rates of vapor retarder products, in accordance with ASTM E 2178.

1.5 QUALITY ASSURANCE

A. Source Limitations: For each type of vapor retarder specified, obtain materials through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original containers with seals unbroken, wrapped in a polythene sleeve, labeled with manufacturer's name, and product brand name.

B. Store rolls under cover, on a clean, level surface, either flat or upright.

PART 2 - PRODUCTS

2.1 POLYETHYLENE SHEET VAPOR RETARDER

A. Vapor Retarder: ASTM D 2103, 10-mil thick polyethylene sheeting.

1. Water Vapor Transmission: Maximum of 0.02 Perms (US) per ASTM E96

B. Adhesive: A spray-on adhesive, "3M High Tack Adhesive no. 76 or equivalent product with respect to shear strength, maximum recommended temperature and adhesion to polyethylene.

C. Sealing Film: A transfer tape, "3M Adhesive Transfer System Y-926" or equivalent with respect to adhesion to steel, adhesion to polyethylene, shear strength, and high temperature operating resistance.

D. Tape: A press-on tape, "3M No. 396 Super Bond Film Tape" or equivalent with respect to tensile strength, adhesion to steel, adhesion to polyethylene and range of use temperature. Use opaque color tape 2 inches wide.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

A. Coordinate installation of vapor retarder with installation of insulation. Protect insulation at all times against migration of moisture vapor.

B. Coordinate installation of wall, roof and floor assembly vapor retarder to create a continuous barrier to vapor migration. Overlap wall vapor retarder a minimum of 24 inches over roof or floor vapor retarder wherever possible. Where construction configuration will not permit overlap of wall and roof vapor retarder, seal sheet to adjacent construction with sealant.

C. Install vapor retarder on the interior or warm side of all insulated exterior walls, roof, and floor, and other areas indicated on the Drawings. Apply the vapor retarder material with all joints lapped a minimum of 12 inches. Apply this minimum lap to all areas where the vapor retarder material unites other materials or surfaces such as at corners, floors, ceilings, and wall openings. Extend the wall material loosely 24 inches above the top of exterior wall for eventual meshing with roof vapor retarder.

D. Make all joints and laps over solid framing or substrate panels. Set-in and seal joints and laps with tape. The vapor retarder material may be attached with compression-type automatic staplers; however, staplers must be pressure adjusted to avoid rupturing or tearing the vapor retarder materials. Make spacing of staples or nails ample to hold the vapor retarder materials in position until application of finish material. Apply vapor retarder tape over all staples.

E. Avoid pipe, conduit, fixture, wiring, outlet box or other penetrations along the exterior wall assemblies wherever possible. Where pipes, conduits, fixtures, wiring, outlet boxes, or other openings penetrate the vapor retarder, the penetration and retarder shall be sealed vapor tight with a rubberized asphalt membrane patch on the back side of the penetration, sealing to the vapor retarder.

F. At larger openings, such as exterior windows and doors, completely seal wall openings at all junctions, corners, edges, and penetrations. After the vapor retarder is installed and sealed with the specified tape, and prior to applying any wall or ceiling finish, cover the vapor retarder with a 2 inch wide band of sealing film with the vapor retarder mastic specified herein, over all furring, framing, blocking or other bearing surfaces to form a seal where the vapor retarder has been or may be penetrated by nailing, staples, or other fasteners during installation of the vapor retarder and other finish materials. The completed installation, sealing and coating shall be such as to eliminate the possibility of moisture vapor flow into the insulation from the building interior.

G. After installation and prior to installing any wall finish, the vapor retarder installation shall be thoroughly inspected prior to concealment; any break, rupture, tear or failure to provide a positive vapor retarder seal shall brought to the attention of the Architect and Owner.

3.2 VAPOR RETARDER TABS

A. Contractor shall coordinate work required at the exterior envelope to provide vapor retarder “tabs” to be installed under components that would later prohibit continuity of the vapor retarder installation. Vapor retarder tabs shall be installed simultaneously with rough carpentry framing or other materials that might otherwise interrupt vapor retarder continuity.

1. Tabs shall be sized to allow a minimum 24-inch overlap with primary vapor retarder sheet, on both sides of the obstruction.

END OF SECTION 07 26 00

SECTION 07 42 13 – METAL WALL PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes new metal wall panels to be installed at existing building and includes the following:

1. Concealed-fastener, exterior wall panels.
2. Concealed fastener, exterior soffit panels to match existing.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 25 00 – WEATHER BARRIERS, for air and weather barriers to be installed under new siding.
2. SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM, for flashing and other sheet metal work not part of metal wall panel assemblies.
3. SECTION 07 92 00 – JOINT SEALANTS, for joint sealants.
4. SECTION 08 53 13 – VINYL WINDOWS, for vinyl window units to receive flashing and trim specified in this Section.

1.4 DEFINITION

A. Metal Wall Panel Assembly: Metal wall panels, attachment system components, miscellaneous metal framing, and accessories necessary for a complete weathertight wall system.

1.5 PERFORMANCE REQUIREMENTS

A. General Performance: Metal wall panel assemblies shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction. Assemblies shall successfully pass the following performance tests:

1. ASTM E 283, Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Difference across the Specimen.
2. ASTM E 330, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
3. ASTM E 331, Standard Test Method for Water Penetration of Exterior Window, Skylight, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
4. AAMA 501.1, Water Penetration of Window, Curtain Walls and Doors Using Dynamic Pressure. This dynamic water test will show pressurized direct water spray at a 45 degree angle to panel joint, and pass system testing without a membrane.
5. AAMA 508-07, Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems. This measures Water Penetration of the metal cladding system only. This dynamic water test will show pressurized direct water spray at a 45 degree angle to panel joint, and pass system testing without a membrane.

B. Structural Performance: Provide metal wall panel assemblies capable of withstanding the effects the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:

1. Wind Loads: Determine loads based on the minimum design wind pressures indicated on Drawings.
2. Deflection Limits: Metal wall panel assemblies shall withstand wind loads with horizontal deflections no greater than 1/180 of the span.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

D. Delegated Design: Calculate clip and fastening pattern to meet performance requirements and design criteria indicated and any other code requirements.

1.6 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of wall panel and accessory.

B. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, clip attachment system, rainscreen channel treatment, trim, flashings, closures, and accessories; and special details. Distinguish between factory-, shop- and field-assembled work.

1. Accessories: Include details of the following items, at a scale of not less than 3 inches per 12 inches:

    a. Flashing and trim.
    b. Clip and anchorage systems.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Metal Wall and Soffit Panels: 12 inches long by actual panel width. Include fasteners, closures, and other metal wall panel accessories.
2. Trim and Closures: 12 inches long. Include fasteners and other exposed accessories.
3. Accessories: 12-inch-long Samples for each type of accessory.

D. Delegated-Design Submittal: Provide attachment engineering analysis, signed and sealed by a qualified professional engineer licensed in Alaska.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

F. Maintenance Data: For metal wall panels to include in maintenance manuals.

G. Warranties: Sample of special warranties.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Source Limitations: Obtain each type of metal wall panel from single source from single manufacturer.

C. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review methods and procedures related to metal wall panel installation, including manufacturer's written instructions.
3. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
4. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that will affect metal wall panels.
5. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
6. Review temporary protection requirements for metal wall panel assembly during and after installation.
7. Review wall panel observation and repair procedures after metal wall panel installation.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, metal wall panels, and other manufactured items so as not to be damaged or deformed. Package metal wall panels for protection during transportation and handling.

B. Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Retain strippable protective covering on metal wall panel for period of metal wall panel installation.

1.9 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Verify locations of structural members and wall opening dimensions by field measurements before metal wall panel fabrication, and indicate measurements on Shop Drawings.

1.10 COORDINATION

A. Coordinate metal wall panel assemblies with rain drainage work, flashing, trim, and construction of soffits, and other adjoining work to provide a leak-proof, secure, and noncorrosive installation.

1.11 WARRANTY

A. Special Warranty on Watertightness: Installer's standard form in which Installer agrees to repair or replace components of metal wall panel assemblies that fail in materials or workmanship to maintain watertight conditions within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal wall panel assemblies that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Structural failures including rupturing, cracking, or puncturing.
    b. Deterioration of metals and other materials beyond normal weathering.

2. Warranty Period: Twenty years from date of Substantial Completion.

C. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

    a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CONCEALED-FASTENER, CONCEALED-CLIP, METAL WALL PANELS

A. General: Provide factory-formed metal wall panel assembly designed to be field assembled by mechanically fastening panels to supports with concealed clip attached directly to substrate or girts. Include accessories required for weathertight installation.

B. Basis-of-Design: AEP Span.

1. Materials: Panels shall be fabricated from aluminum-zinc alloy coated steel conforming to ASTM A 792.

    a. Panel Thickness: 22-gauge.
    b. Panel Depth: 1-1/2-inch.
    c. Panel Attachment: Concealed fastener.
    d. Panel Coverage: As specified for each profile.
    e. Panel Length: Provide full height vertical panels. Provide vertical joints in horizontal panel runs as indicated in Drawings, or at 20-feet panel length maximum.
    f. Panel Texture: Smooth.
    g. Panel Color: As indicated in Drawings
    h. Panel Configuration: Vertical.

2.2 CONCEALED-FASTENER, METAL SOFFIT PANELS (MATCH ADJACENT BUILDING)

A. General: Provide factory-formed metal soffit panel assembly designed to be field assembled by mechanically fastening panels to supports with concealed clip attached directly to substrate or girts. Include accessories required for weathertight installation.

B. Basis-of-Design: AEP Span; Flush Panel. (CONTRACTOR TO MATCH EXISTING SOFFIT PANELS)

1. Materials: Panels shall be fabricated from aluminum-zinc alloy coated steel conforming to ASTM A 792.
    a. Panel Thickness: 24-gauge.
    b. Panel Depth: 1-inch.
    c. Panel Coverage: As specified for each profile.
    d. Provide full length panels.
    e. Panel Texture: Smooth.

2.3 ACCESSORIES

A. Panel Fasteners: Self-tapping stainless-steel screws, of type and size sufficient to penetrate supporting members and accomplish full hold strength.

B. Flashing: Fabricated from material of same thickness and finish as the wall or soffit panel to which they are attached. To the greatest extent possible, provide flashings in 20 foot lengths. Exposed flashings shall be overlapped 6 inches.

C. Panel Sealants: Non-skinning, non-hardening, gunnable grade butyl sealant, or butyl sealant tape. All sealing shall be done in a neat manner with excess sealant removed from exposed surfaces.

2.4 FABRICATION

A. General: Fabricate and finish metal wall and soffit panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

1. Fabricate metal wall panels in a manner that eliminates condensation on interior side of panel and with joints between panels designed to form weathertight seals.
2. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

3. Fabricate metal wall panel joints with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, and that will minimize noise from movements within panel assembly.

B. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
4. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, non-corrosive metal recommended by wall panel manufacturer.

2.5 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of work.

1. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.

B. For the record, prepare written report, endorsed by Installer listing conditions detrimental to performance of work.

C. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Framing: Install shims, base angles, sills, furring, and other miscellaneous wall panel support members and anchorages according to ASTM C 754 and metal wall panel manufacturer's written recommendations.

1. Soffit Framing: Attach panel clips directly to plywood substrate or wood truss chords.

3.3 METAL SOFFIT PANEL INSTALLATION

A. In addition to complying with requirements of "Metal Wall Panel Installation" Article, install metal soffit panels to comply with the requirements of this Article.

B. Metal Soffit Panels: Provide metal soffit panels full width of soffits. Install panels as indicated in the Drawings, or if not indicated, perpendicular to support framing.

1. Flash and seal panels with weather closures where metal soffit panels meet walls and at perimeter of all openings.

3.4 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Install exposed flashing and trim without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.

Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet. Joints shall not be allowed within 24 inches of corners or intersections. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

3.5 FIELD QUALITY CONTROL

A. Remove and replace metal wall panels where tests and inspections indicate that they do not comply with specified requirements.

B. Additional tests and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.6 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal soffit panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal soffit panel installation, clean finished surfaces as recommended by metal soffit panel manufacturer. Maintain in a clean condition during construction.

B. After metal soffit panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

C. Replace metal soffit panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 13

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes the following:

1. Formed wall sheet metal flashings and soffit trim.
2. Miscellaneous sheet metal flashing, as required.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 92 00 – JOINT SEALANTS, for joint sealants.
2. SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES, for door frames to receive sheet metal fabrications specified in the Section.

1.4 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies as indicated shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Thermal Movements: Provide sheet metal flashing and trim that allows for thermal movements from ambient and surface temperature changes.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, and keyed details. Distinguish between shop- and field-assembled work. Include the following:

1. Identification of material, thickness, weight, and finish for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for joining, supporting, and securing sheet metal flashing and trim, including layout of fasteners, cleats, clips, and other attachments. Include pattern of seams.
4. Details of termination points and assemblies, including fixed points.
5. Details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings as applicable.
6. Details of special conditions.
7. Details of connections to adjoining work.
8. Detail formed flashing and trim at a scale of not less than 1-1/2 inches per 12 inches.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim, Metal Closures, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.

D. Warranty: Sample of Special warranty.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

C. Preinstallation Conference: Conduct conference at Project site.

1. Meet with Owner’s Representative, Architect, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, roof-mounted equipment, exterior cladding, windows and doors.
2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.

4. Review special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect sheet metal flashing.
5. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

1.8 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

B. Metallic-Coated Steel Sheet: Restricted flatness steel sheet, metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
2. Surface: Smooth, flat.

C. Finish: Factory applied, 70% baked-on Kynar 500 or Hylar 5000 PVDF fluoropolymer resin coating system, conforming to the following:

1. Metal preparation: All metal shall have the surfaces carefully prepared for painting on a continuous coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with an acid rinse, and thorough drying.
2. Prime coating: A base coat specifically formulated to interact with the top coat, shall be applied to the prepared surfaces by roll coating to a dry film thickness of 0.20 mils (+/- 0.05 mils). This prime coat shall be oven cured prior to application of finish coat.
3. Exterior coating: A finish coating shall be applied over a primer by roll coating to a dry film thickness of 0.80 mils (+/- 0.05 mils) for a total dry film thickness of 1.00 mils (+/- 0.10mils). This finish coating shall be oven cured.
4. Interior coating: a wash coat shall be applied on the reverse side over the primer by roll coating to a dry film thickness of 0.30 mils (+/- .05 mils) for a total dry film thickness of 0.050 mils (+/- .10mils). The wash coat shall be oven cured.
5. Physical properties: The coating shall conform to the manufacturer's standard performance criteria as listed by certified test reports for fade, chalk, abrasion, humidity, adhesion, pollution resistance and others as required and standard with the industry.

    a. Color: To match adjacent finish.

6. Concealed Face: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

2.2 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

    a. Exposed Fasteners: Where concealed fasteners are unavoidable, provide exposed heads matching color of sheet metal using factory-applied coating.
    b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.

2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.

C. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

D. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.3 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.

1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
2. Obtain field measurements for accurate fit before shop fabrication.
3. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

D. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" for application, but not less than thickness of metal being secured.

G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.

H. Do not use graphite pencils to mark metal surfaces.

2.4 WALL SHEET METAL FABRICATIONS

A. Opening Flashings in Frame Construction: To the greatest extent possible, fabricate head, sill, jamb, and similar flashings to extend 4-inches beyond wall openings. Form head and sill flashing with integral drip edge. Fabricate from the following materials:

1. Galvanized Steel: 0.024 inch thick (24-gauge).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.

1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks. Provide continuous flashing lengths at openings to the greatest extent possible.

5. Install sealant tape where indicated.
6. Torch cutting of sheet metal flashing and trim is not permitted.
7. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.

D. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

E. Seal joints as shown and as required for watertight construction.

1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

3.3 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

B. Opening Flashings in Frame Construction: To the greatest extent possible, install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

3.4 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

B. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. This Section Includes the following:

1. Joint sealants.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 42 13- METAL WALL PANELS, for exterior wall panels.
2. SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM, for shop- and field-fabricated metal flashing and counterflashing, and miscellaneous sheet metal trim and accessories.
3. SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES, for hollow metal door frames.
4. SECTION 09 29 16 – GYPSUM BOARD ASSEMBLIES, for sealing perimeter joints.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

D. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

F. Warranties: Sample of special warranties

1.5 QUALITY ASSURANCE

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

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

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Single-Component Polyurethane Sealant: For use at exterior siding, roofing, and flashing installations.

1. Products:

a. Permathane SM7100/7108, by Schnee-Morehead, or equal.

2. Type and Grade: S (single component) and NS (non-sag).
3. Class: 25.
4. Use Related to Exposure: NT (non-traffic).
5. Uses Related to Joint Substrates: M, G, A, and O.

D. Single-Component Neutral-Curing Silicone Sealant: For interior applications

1. Products:

a. Dow Corning Corporation; 790.
b. GE Silicones; SilPruf LM SCS2700.
c. GE Silicones; SilPruf SCS2000.
d. Sonneborn, Division of ChemRex Inc.; Omniseal.
e. Or equal.

2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 100/50.
4. Use Related to Exposure: NT (non-traffic).
5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
6. Stain-Test-Response Characteristics: Non-staining to porous substrates per ASTM C 1248.

E. Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant: For interior applications subject to exposure to moisture.

1. Products:

a. Pecora Corporation; 898, or equal.

2. Type and Grade: S (single component) and NS (non-sag).
3. Class: 25.
4. Use Related to Exposure: NT (non-traffic).
5. Uses Related to Joint Substrates: G, A, and, as applicable to joint substrates indicated, O.

2.3 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, type, size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Non-porous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Non-staining, non-absorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.

    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 CLEANING

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

3.5 PROTECTION

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

END OF SECTION 07 92 00

SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. This Section includes the following:

1. Maximum-Duty hollow metal doors and frames, as indicated on Drawings.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 08 71 00 – DOOR HARDWARE, for door hardware for hollow metal doors.
2. SECTION 08 80 00 – GLAZING, for glass view panels in new hollow metal doors and frames.
3. SECTION 09 91 23 – INTERIOR PAINTING, for painting hollow metal doors and frames.

1.4 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.5 SUBMITTALS

A. Field Verification Report: Provide schedule of field-verified door and frame components, organized by door numbers indicated in Drawings. Confirm suitable condition and function of existing doors and frames scheduled for re-use.

B. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.

C. Shop Drawings: Include the following:

1. Elevations of each door design.
2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.
8. Details of moldings, removable stops, and glazing.
9. Details of conduit and preparations for power, signal, and control systems.

D. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.

B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UBC Standard 7-2.

C. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch- high wood blocking. Do not store in a manner that traps excess humidity.

1. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.8 COORDINATION

A. Electric Functions: Coordinate requirements of other sections and trades related to security and access control system.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Amweld Building Products, LLC.
2. Ceco Door Products; an Assa Abloy Group company.
3. Curries Company; an Assa Abloy Group company.

2.2 DOORS AND FRAMES

A. Construct doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Maximum-Duty Doors and Frames: SDI A250.8, Performance Level 4.

1. Physical Performance: Level A according to SDI A250.4.
2. Doors:

    a. Type: As indicated in the Door and Frame Schedule.
    b. Thickness: 1-3/4 inches
    c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A40 coating.
    d. Edge Construction: Model 2, Seamless.
    e. Core: Polyurethane.
        1) Fire Door Core: As required to provide fire-protection ratings indicated.
        2) Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 10 deg F x h x sq. ft./Btu when tested according to ASTM C518 or 2.9 deg F x h x sq. ft./Btu when tested according to ASTM C1363.
            a) Locations: Vestibule doors, and interior doors where indicated.

3. Frames: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A40 coating.

    a. Construction: Full profile welded.
    b. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.067 inch thick.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.067 inch.

2.4 STOPS AND MOLDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch thick, fabricated from same material as door face sheet in which they are installed.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch thick, fabricated from same material as frames in which they are installed.

2.5 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding.

2.6 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

1. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

B. Hollow Metal Doors:

1. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
2. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets.
3. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
4. Glazed Lites: Factory cut openings in doors.

5. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted.

C. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
4. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

        1) Four anchors per jamb from 60 to 90 inches high.

5. Head Anchors: Two anchors, minimum per head for frames.

6. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

D. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

E. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Section 08 7 10 - Door Hardware.

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

F. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow metal work.
5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.7 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

    a. At fire-protection-rated openings, install frames according to NFPA 80.
    b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    c. Install frames with removable glazing stops located on secure side of opening.
    d. Install door silencers in frames before grouting.
    e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    g. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

    a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Glazing: Comply with installation requirements in Section 08 80 00 –Glazing and with hollow metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13

SECTION 08 31 13 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section Includes:

1. Access doors and frames for walls and ceilings.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 06 10 00 – ROUGH CARPENTRY, for wood framing and furring.
2. SECTION 09 29 16 – GYPSUM BOARD ASSEMBLIES, for interior partition framing and gypsum finishes.
3. SECTION 09 91 23 – INTERIOR PAINTING, for interior paint applications.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, fire ratings, materials, individual components and profiles, and finishes.

B. Shop Drawings:

1. Include plans, elevations, sections, details, and attachments to other work.
2. Detail fabrication and installation of access doors and frames for each type of substrate.

C. Samples: For each door face material, at least 3 by 5 inches in size, in specified finish.

D. Product Schedule: Provide complete access door and frame schedule, including types, locations, sizes, latching or locking provisions, and other data pertinent to installation.

1. Include key floor plans, ceiling plans, sections and interior elevations indicating location, size, mounting height and type of each door and frame.

1.5 QUALITY ASSURANCE

A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed plumbing, mechanical, or other concealed work, and indicate in the schedule specified in "Submittals" Article.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Access Doors and Frames: Units complying with NFPA 80 that are identical to access door and frame assemblies tested for fire-test-response characteristics according to the following test method and that are listed and labeled by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. NFPA 252 or UL 10B for fire-rated access door assemblies installed vertically.
2. NFPA 288 for fire-rated access door assemblies installed horizontally.

2.2 ACCESS DOORS AND FRAMES FOR FLOORS, WALLS AND CEILINGS

A. General: Provide access doors and frames for all locations requiring access to otherwise concealed valves, switches, equipment, or other components requiring routine maintenance, adjustment or reset. Provide doors and frames of suitable size to access components served.

B. Basis-of-Design: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Babcock-Davis. Item Number 402H07

C. Source Limitations: Obtain each type of access door and frame from single source from single manufacturer.

D. Flush Access Doors with Exposed Flanges:

1. Assembly Description: Fabricate door to fit flush to frame. Provide manufacturer's standard-width exposed flange, proportional to door size.
2. Locations: Ceiling.
3. Door Size: 22”x36” at ceiling locations. As required for access to components served at wall and ceiling locations.
4. Uncoated Steel Sheet for Door: Nominal 0.060 inch, 16 gage.

a. Finish: Factory prime.

b. Application: Interior wall and ceiling locations as required.

5. Galvanized Steel Sheet for Door: Nominal 0.064 inch, 16 gage.

a. Finish: G60 galvanized and suitable for exterior conditions.
b. Application: Exterior wall locations as required.

6. Frame Material: Same material, thickness, and finish as door.
7. Hinges: Manufacturer's standard.
8. Hardware: Lock.

2.3 MATERIALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.

C. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A 879/A 879M, with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.

D. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.

E. Frame Anchors: Same type as door face.

F. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

2.4 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access doors to types of supports indicated.

D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.

1. For cylinder locks, furnish two keys per lock and key all locks alike.

2.5 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

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

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Steel and Metallic-Coated-Steel Finishes:

1. Factory Prime: Apply manufacturer's standard, fast-curing, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

B. Install doors flush with adjacent finish surfaces or recessed to receive finish material.

3.3 ADJUSTING

A. Adjust doors and hardware, after installation, for proper operation.

B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08 31 13

SECTION 08 36 13 - SECTIONAL DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes electrically operated sectional doors.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 03 30 00 – CAST-IN-PLACE CONCRETE, for placement of anchors in concrete wall construction.
2. SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM, for metal flashing at sectional door openings.
3. DIVISON 26 and DIVISION 28 SECTIONS, for electrical service and connections for powered operators and accessories.

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Sectional doors shall meet performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction and without requiring temporary installation of reinforcing components.

B. Structural Performance: Exterior sectional doors shall withstand the effects of gravity loads and wind loads indicated in Drawings.

1. Deflection Limits: Design sectional doors to withstand design wind loads without evidencing permanent deformation or disengagement of door components. Deflection of door in horizontal position (open) shall not exceed 1/120 of the door width.

C. Air Infiltration: Maximum rate not more than indicated when tested according to ASTM E 283.

1. Air Infiltration: Maximum rate of 0.08 cfm/sq. ft. at 15 and 25 mph.

D. Seismic Performance: Sectional doors shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
2. Seismic Component Importance Factor: 1.5.

E. Operation Cycles: Provide sectional door components and operators capable of operating for not less than 25,000 cycles. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

1.5 ACTION SUBMITTALS

A. Product Data: For each type and size of sectional door and accessory. Include the following:

1. Construction details, material descriptions, dimensions of individual components, profile door sections, and finishes.
2. Rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data. Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.

C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

1. Include similar Samples of accessories involving color selection.

D. Delegated-Design Submittal: For sectional doors indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Detail fabrication and assembly of seismic restraints.
2. Summary of forces and loads on walls and jambs.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Warranties: Sample of special warranties.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sectional doors to include in maintenance manuals.

1.8 QUALITY ASSURANCE

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

B. Source Limitations: Obtain sectional doors from single source from single manufacturer.

1. Obtain operators and controls from sectional door manufacturer.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of sectional doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Faulty operation of hardware.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use; rust through.
d. Delamination of exterior or interior facing materials.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 STEEL DOOR SECTIONS

A. Basis-of-Design: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1. Overhead Door Company; ‘Thermacore’ Model 599.

a. Door Thickness: 2-inch thick, flush panels.
b. Face Thickness: 0.016-inch.
c. Thermal Performance: R-17.5
d. Face Surface Treatment: Smooth skin.
e. Exterior Color: To be selected from Manufactures standard colors.
f. Interior Color: Manufacturer's standard white.

B. Exterior Section Faces and Frames: Fabricate from zinc-coated (galvanized), cold-rolled, commercial steel (CS) sheet, complying with ASTM A 653/A 653M, with indicated zinc coating and thickness.

1. Fabricate section faces from single sheets to provide sections not more than 24 inches high and of indicated thickness. Roll horizontal meeting edges to a continuous, interlocking, keyed, rabbeted, shiplap, or tongue-in-groove weathertight seal, with a reinforcing flange return.
2. For insulated doors, provide sections with continuous thermal-break construction, separating the exterior and interior faces of door.

C. Section Ends and Intermediate Stiles: Enclose open ends of sections with channel end stiles formed from galvanized-steel sheet not less than 0.064-inch- nominal coated thickness and welded to door section. Provide intermediate stiles formed from not less than 0.064-inch- thick galvanized-steel sheet, cut to door section profile, and welded in place. Space stiles not more than 48 inches apart.

D. Reinforce bottom section with a continuous channel or angle conforming to bottom-section profile and allowing installation of astragal.

E. Reinforce sections with continuous horizontal and diagonal reinforcement, as required to stiffen door and for wind loading. Provide galvanized-steel bars, struts, trusses, or strip steel, formed to depth and bolted or welded in place. Ensure that reinforcement does not obstruct vision lites.

F. Provide reinforcement for hardware attachment.

G. Foamed-in-Place Thermal Insulation: Insulate interior of steel sections with door manufacturer's standard polyurethane insulation, foamed in place to completely fill interior of section and pressure bonded to face sheets to prevent delamination under wind load, and with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E 84.

H. Fabricate sections so finished door assembly is rigid and aligned, with tight hairline joints and free of warp, twist, and deformation.

2.2 TRACKS, SUPPORTS, AND ACCESSORIES

A. Tracks: Manufacturer's galvanized-steel track system of configuration indicated, sized for door size and weight, designed for lift type indicated and clearances shown on Drawings, and

complying with ASTM A 653/A 653M for minimum G60 zinc coating. Provide complete track assembly including brackets, bracing, and reinforcement for rigid support of ball-bearing roller guides for required door type and size. Slot vertical sections of track spaced 2 inches apart for door-drop safety device. Slope tracks at proper angle from vertical or design tracks to ensure tight closure at jambs when door unit is closed.

1. Track: 3-inch wide rolled steel track, continuous.
2. Exterior Installation Configuration: Standard lift track, as indicated in Drawings.

B. Track Reinforcement and Supports: Galvanized-steel track reinforcement and support members, complying with ASTM A 36/A 36M and ASTM A 123/A 123M. Secure, reinforce, and support tracks as required for door size and weight to provide strength and rigidity without sag, sway, and vibration during opening and closing of doors.

1. Assembly: Provide vertical track components with wall jamb brackets attached to track and attached to wall. Provide horizontal track components with continuous reinforcing angle attached to track and supported at points from curve in track to end of track by laterally braced attachments to overhead structural members.

C. Weatherseals: Replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible EPDM, fitted to bottom and top of sectional door unless otherwise indicated.

2.3 WINDOW PANEL SECTIONS

A. Material: 2-inch thick, 6036-T6 aluminum alloy stiles and rails joined together with 5/16-inch galvanized through-bolts. Fill spaces between stiles and rails with 0.050-inch aluminum panels, completely encased in soft vinyl channels and held in place with snap-in extruded aluminum retainer. Combined dimension of two adjoining intermediate meeting rails shall be 3-3/4 inches. End stiles 6-1/4 inches wide as determined by overall door width. Center stiles 3-5/8 inches wide. Bottom rail height 5-1/8 inches.

1. Windows: Provide window sizes and configurations as indicated in Drawings.
2. Color: Clear anodized aluminum.

B. Section Mounting in Door Opening: Mount sections in door opening using Lap Jamb Angle Mounting. Section shall overlap door jambs by 1 inch on each side of door opening.

C. Seals: Flexible U-shaped vinyl seal retained in bottom aluminum rail of door.

D. Glass Glazing: Provide glazing in window panel sections with 7/16-inch insulated clear glass, consisting of two panes of 1/8-inch DSB non-insulated glass.

2.4 HARDWARE

A. General: Provide heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.

B. Hinges: Heavy-duty, galvanized-steel hinges of not less than 0.079-inch- nominal coated thickness at each end stile and at each intermediate stile, according to manufacturer's written recommendations for door size. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is not possible. Provide double-end hinges where required, for doors over 16 feet wide unless otherwise recommended by door manufacturer.

C. Rollers: Heavy-duty rollers with steel ball-bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Provide 3-inch-diameter roller tires for 3-inch-wide.

D. Push/Pull Handles: For push-up or emergency-operated doors, provide galvanized-steel lifting handles on each side of door.

2.5 COUNTERBALANCE MECHANISM

A. Torsion Spring: Counterbalance mechanism consisting of adjustable-tension torsion springs fabricated from steel-spring wire complying with ASTM A 229/A 229M, mounted on torsion shaft made of steel tube or solid steel. Provide springs designed for number of operation cycles indicated.

B. Weight Counterbalance: Counterbalance mechanism consisting of filled pipe weights that move vertically in a galvanized-steel weight pipe. Connect pipe weights with cable to weight-cable drums mounted on torsion shaft made of steel tube or solid steel.

C. Cable Drums and Shaft for Doors: Cast-aluminum or gray-iron casting cable drums mounted on torsion shaft and grooved to receive door-lifting cables as door is raised. Mount counterbalance mechanism with manufacturer's standard ball-bearing brackets at each end of torsion shaft. Provide one additional midpoint bracket for shafts up to 16 feet long and two additional brackets at one-third points to support shafts more than 16 feet long unless closer spacing is recommended by door manufacturer.

D. Cables: Galvanized-steel lifting cables with cable safety factor of at least 7 to 1.

E. Cable Safety Device: Include a spring-loaded steel or spring-loaded bronze cam mounted to bottom door roller assembly on each side and designed to automatically stop door if either lifting cable breaks.

F. Bracket: Provide anchor support bracket as required to connect stationary end of spring to the wall and to level the shaft and prevent sag.

G. Provide a spring bumper at each horizontal track to cushion door at end of opening operation.

2.6 ELECTRIC DOOR OPERATORS

A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and "operation cycles" requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking door, and accessories required for proper operation.

1. Comply with NFPA 70.

B. Door-Operator Type: Unit consisting of electric motor, gears, pulleys, belts, sprockets, chains, and controls needed to operate door and meet required usage classification.

1. Jackshaft, Side Mounted: Jackshaft operator mounted on the inside front wall above door and connected to torsion shaft with an adjustable coupling or drive chain.

a. Overhead Door Company Model RHX Commercial Operator.

C. Electric Motors: Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements.

1. Electrical Characteristics:

a. Phase: Single phase.
b. Volts: 115 V.
c. Hertz: 60.

2. Motor Size: 1/2 HP.
3. Operating Controls, Controllers (Disconnect Switches), Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
4. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.

D. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.

E. Obstruction Detection Device: Equip motorized door with external automatic safety sensor capable of protecting full width of door opening. Activation of device immediately stops and reverses downward door travel.

1. Sensor Edge: Automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor activates device. Connect to control circuit using manufacturer's standard take-up reel or self-coiling cable.

F. Remote-Control Station: Momentary-contact, three-button control station with push-button controls labeled "Open," "Close," and "Stop."

G. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 35 lbf.

H. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

2.7 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 STEEL AND GALVANIZED-STEEL FINISHES

A. Factory Prime Finish: Manufacturer's standard primer, compatible with field-applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

B. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

1. Provide full height steel mounting and backing plates or angles at track / jamb conditions, full height to torsion spring and drum elevation. Provide intermediate steel backing plates for drum and operator support as required by manufacturer. Provide steel angle, channel or other shapes as required to brace section door, track and operator components.

a. Provide steel support components as specified in Section 05 50 00, “Metal Fabrications”.
b. Provide solid backing in wall construction for steel backing and bracing components, or attach to steel girt framing.
c. Exposed wood mounting and backing material for section door, track or operator components is not permitted.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Tracks:

1. Fasten vertical track assembly to opening jambs and framing, spaced not more than 24 inches apart.
2. Hang horizontal track assembly from structural overhead framing with angles or channel hangers attached to framing by welding or bolting, or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door-operating equipment.
3. Repair galvanized coating on tracks according to ASTM A 780.

C. Accessibility: Install sectional doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.

3.3 STARTUP SERVICES

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust doors and seals to provide weathertight fit around entire perimeter.

D. Align and adjust motors, pulleys, belts, sprockets, chains, and controls according to manufacturer's written instructions.

E. Touch-up Painting: Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.

END OF SECTION 08 36 13

SECTION 08 51 13 – ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications – Buildings (MASSB), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section Includes:

1. Exterior aluminum windows.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 25 00 – WEATHER BARRIERS, for weather barriers.
2. SECTION 07 62 00 – SHEET METAL FLASHING, for flashing.
3. SECTION 07 92 00 – JOINT SEALANTS, for joint sealants.

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

1. Movements of supporting structure indicated In Drawings including, but not limited to, gravity loads, wind loads, seismic loads and deflection from uniformly distributed and concentrated live loads.
2. Dimensional tolerances of building frame and other adjacent construction.
3. Failure includes the following:

    a. Deflection exceeding specified limits.
    b. Thermal stresses transferring to building structure.
    c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
    d. Glazing-to-glazing contact.

e. Noise or vibration created by wind and by thermal and structural movements.
f. Loosening or weakening of fasteners, attachments, and other components.
g. Sealant failure.
h. Failure of operating units.

B. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 6.24 lbf/sq. ft.

C. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft.

D. Water Penetration under Dynamic Pressure: Provide aluminum-framed systems that do not evidence water leakage through fixed glazing and framing areas when tested according to AAMA 501.1 under dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft.

1. Maximum Water Leakage: According to AAMA 501.1 No uncontrolled water penetrating aluminum-framed systems or water appearing on systems' normally exposed interior surfaces from sources other than condensation. Water leakage does not include water controlled by flashing and gutters that is drained to exterior and water that cannot damage adjacent materials or finishes.

E. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
2. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.

F. Condensation Resistance: Provide aluminum-framed systems with fixed glazing and framing areas having condensation-resistance factor (CRF) of not less than 62 when tested according to AAMA 1503.

1. Operable units shall have a CRF of not less than 57 when tested in accordance with AAMA 1503.

G. Thermal Conductance: Provide aluminum-framed systems with fixed glazing and framing areas having an average U-factor of not more than 0.44 Btu/sq. ft. x h x deg F when tested according to AAMA 1503.

H. Sound Transmission: Provide aluminum-framed systems with fixed glazing and framing areas having the following sound-transmission characteristics:

1. Sound Transmission Class (STC): Minimum 37 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.
2. Outdoor-Indoor Transmission Class (OITC): Minimum 30 OITC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 1332.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum-framed systems.

B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.

1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
2. For entrance doors, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for aluminum-framed systems, indicating compliance with performance requirements.

C. Source quality-control reports.

D. Field quality-control reports.

E. Warranties: Sample of special warranties.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For aluminum window systems.

1.8 QUALITY ASSURANCE

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

1.9 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

   a. Structural failures including, but not limited to, excessive deflection.
   b. Noise or vibration caused by thermal movements.
   c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   d. Adhesive or cohesive sealant failures.
   e. Water leakage through fixed glazing and framing areas.
   f. Failure of operating components.

2. Warranty Period: Two years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Products: Design is based upon products provided by Kawneer, an Alcoa Company. Subject to compliance with requirements, Subject to compliance with requirements,

available products that may be incorporated into the Work include, but are not limited to, the following:

1. Exterior Aluminum Windows: Kawneer Trifab 451T Series.

    a. 2-inch x 4-1/2-inch thermally broken frame.
    b. Center glazed. Match existing
    c. Color: Dark Bronze. Match existing frame color.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209.
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
3. Extruded Structural Pipe and Tubes: ASTM B 429.
4. Structural Profiles: ASTM B 308/B 308M.

2.3 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Thermally broken as specified for each type.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Center.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.

D. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

E. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.

2.4 GLAZING SYSTEMS

A. Glazing: As specified in Section 08 80 00 "Glazing."

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.5 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: 1-3/4-inch overall thickness, with minimum 0.125-inch- thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.

a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior <Insert description.
b. Minimum U-Factor for Exterior Exposed Entrance Doors: 0.80

2. Door Design: Wide stile; 6-inch nominal width.

B. Entrance Door Hardware: As specified in Section 08 71 00 "Door Hardware."

2.6 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Section 07 92 00 "Joint Sealants."

B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil thickness per coat.

2.7 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing from interior.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At exterior doors, provide compression weather stripping at fixed stops.
2. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.

F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolysis.
6. Seal joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Section 07 92 00 "Joint Sealants" to produce weathertight installation.

E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.

F. Install glazing as specified in Section 08 80 00 "Glazing."

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

H. Install perimeter joint sealants as specified in Section 07 92 00 "Joint Sealants" to produce weathertight installation.

3.3 ERECTION TOLERANCES

A. Install aluminum-framed systems to comply with the following maximum erection tolerances:

1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet; 1/4 inch over total length.
2. Alignment:

a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch.

b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch.

B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.

3.4 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.

1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches from the latch, measured to the leading door edge.

END OF SECTION 08 41 13

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes:

1. Door hardware for swinging doors.

B. Quantities: Quantities listed are for the Contractor's convenience only and are not guaranteed. Items not specifically mentioned, but necessary to complete the work shall be furnished, matching the items specified in quality and finish.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES, for hollow metal doors and frames to receive door hardware specified in this Section.

1.4 REFERENCES

A. Applicable Codes and Standards: Comply with the following codes and standards, current edition at date of bid:

1. ADAAG - Americans with Disabilities Act, “Accessibility Guidelines for Buildings and Facilities”
2. ANSI/BHMA A156.18 - Materials and Finishes
3. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities
4. NFPA 80 - Standard for Fire Doors and Windows
5. NFPA 252 - Standard of Fire Tests of Door Assemblies
6. Underwriters Laboratories - Building Materials Directory
7. Underwriters Laboratories Test Standard UL 10C - Positive Pressure Fire Tests of Door Assemblies

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Color Samples: Submit color charts and physical samples of each product requiring color selection.

C. Hardware Schedule: Provide a Finish Hardware Schedule indicating the complete designation of every item required for each door or opening.

1. List each opening individually, under separate heading, in same order as the door schedule. Do not group like or similar doors under a single heading. Do not continue headings on separate pages.
2. Each heading shall indicate opening location, handing, degree of opening, door size, type, fire rating, and Door and Frame material.
3. Indicate product Manufacturer and incorporate cross-reference to symbols used in "Hardware Groups" article.
4. The submittal shall include an index indicating door, heading, page numbers, and locking function of each opening.
5. Include locations for all miscellaneous items.
6. Include cross-reference for abbreviations or symbols used.
7. Schedules in coded or horizontal format are unacceptable.
8. Submittals not conforming to these requirements will be returned without review, for re-submittal. Following is an example of the required format:

SET #12

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
1	Flush Bolt (Top Only)	3917-12	626	TR
1	Lockset	45H-7D14M STD 7/8"LTC	630	BE
2	Wall Bumper	1270WX	630	TR
1	Astragal	139 A 84"		NA
2	Door Silencers	1229A	BLACK	TR

D. Modifications: Maintain Finish Hardware current throughout the project duration. All revisions incorporated shall be submitted in accordance with the above requirements. Submit only cover sheet and revised pages. All revisions shall clearly identify changes from previous submittal content.

E. Key Schedule: Upon completion of the Keying Conference indicated "Quality Assurance" article, submit six copies of a key schedule indicating the complete project key system for approval. Obtain approval prior to proceeding with lock portion of the project.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Supplier and Installer.

B. Product Certificates: For electrified door hardware, from the manufacturer.

1. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.

C. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.

D. Warranty: Special warranty specified in this Section.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.

1.8 QUALITY ASSURANCE

A. Supplier Qualifications: Finish hardware shall be supplied by a recognized builders' hardware supplier who has furnished hardware in the same area as the project for a period of not less than five years. Supplier must be a factory authorized, direct, and stocking distributor of the Locksets and Door Closers. The supplier's organization shall include an Architectural Hardware Consultant, certified by the Door and Hardware Institute, to remain available during the course of the work to consult with the Owner’s Representative, Architect or Contractor for project hardware requirements and coordination.

B. Installer Qualifications: Installer of products and an employer of workers trained and approved by product manufacturers.

C. Source Limitations: Obtain each type of door hardware from a single manufacturer.

1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

D. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.

E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

F. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

G. Regulatory Requirements: All finish hardware shall comply with applicable local and/or state current building codes. All finish hardware shall meet the requirements of ADAAG-1992, and ICC/ANSI A117.1 Accessible and Usable Building and Facilities.

H. Product Compliance: Provide only hardware which has been tested and listed by a recognized testing agency for the types and sizes of doors required, and which complies with the requirements of the door and door frame labels. Provide door closers, automatic self-latching bolts, coordinators, gasketing, astragals, or other components if required to conform to label requirements.

I. Keying Conference: Prior to preparation of submittals, conduct conference at Project site, In addition to Owner's Representative, Contractor, and Architect, conference participants shall also include Installer's representative and Owner's contract hardware and security vendor. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:

1. Preliminary key system schematic diagram.
2. Requirements for key control system.
3. Requirements for access control.
4. Address for delivery of keys.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site. Store hardware components in a securely locked location on the project site.

B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

C. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.10 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

1.11 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware failing in materials or workmanship within specified warranty period.

1. Closers: Thirty years
2. Exit Devices: Five Years
3. Locksets & Cylinders: Life of Building
4. All other Hardware: Two years.

1.12 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Products may be furnished by the manufacturers listed under “Basis of Design” below, or equivalent products of type, grade, design, and function, from manufacturers listed under “Acceptable Substitutions”.

Product	Basis-of-Design	Acceptable Substitutions
Hinges	Stanley (ST)	Bommer, McKinney
Continuous Hinges	Stanley (ST)	Select, ABH
Cypher Locksets	Trilogy (TRI)	No Substitutions Permitted
Locksets	Schlage (SCH)	No Substitutions Permitted
Cylinders	BEST (BE)	No Substitutions Permitted
Exit Devices	Von Duprin (VO)	No Substitutions Permitted
Closers	LCN (LCN)	No Substitutions Permitted
Push/Pull Plates	Trimco (TR)	Hager, Rockwood
Protection Plates	Trimco (TR)	Hager, Rockwood
Overhead Stops	ABH (ABH)	Rixson, Glynn Johnson
Door Stops	Trimco (TR)	Hager, Rockwood
Flush Bolts	Trimco (TR)	ABH, Rockwood
Coordinator & Brackets	Trimco (TR)	ABH, Rockwood

Threshold & Gasketing	Pemko (PE)	National Guard, Reese, Zero

2.2 MATERIALS AND FABRICATION

A. Hinges: Shall be Five Knuckle Ball bearing hinges

1. Template screw hole locations
2. Bearings are to be fully hardened.
3. Bearing shell is to be consistent shape with barrel.
4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.
5. Equip with easily seated, non-rising pins.
6. Non Removable Pin screws shall be slotted stainless steel screws.
7. Hinges shall be full polished, front, back and barrel.
8. Hinge pin is to be fully plated.
9. Bearing assembly is to be installed after plating.
10. Sufficient size to allow 180-degree swing of door
11. Furnish five knuckles with flush ball bearings
12. Provide hinge type as listed in schedule.
13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
14. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
15. UL10C listed for Fire rated doors.

B. Geared Continuous Hinges:

1. Tested and approved by BHMA for ANSI A156.26-1996 Grade 1
2. Anti-spinning through fastener
3. UL10C listed for 3 hour Fire rating
4. Non-handed
5. Lifetime warranty
6. Provide Fire Pins for 3-hour fire ratings
7. Sufficient size to permit door to swing 180 degrees

C. Mortise Type Locks and Latches:

1. Tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C.
2. Furnish UL or recognized independent laboratory certified mechanical operational testing to 4 million cycles minimum.
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Fit ANSI A115.1 door preparation
5. Functions and design as indicated in the hardware groups

6. Solid, one-piece, 3/4-inch (19mm) throw, anti-friction latchbolt made of self-lubricating stainless steel
7. Deadbolt functions shall have 1 inch (25mm) throw bolt made of hardened stainless steel
8. Latchbolt and Deadbolt are to extend into the case a minimum of 3/8 inch (9.5mm) when fully extended
9. Auxiliary deadlatch to be made of one piece stainless steel, permanently lubricated
10. Provide sufficient curved strike lip to protect door trim
11. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1. Levers that contain a hollow cavity are not acceptable
12. Lock shall have self-aligning, thru-bolted trim
13. Levers to operate a roller bearing spindle hub mechanism
14. Mortise cylinders of lock shall have a concealed internal setscrew for securing the cylinder to the lockset. The internal setscrew will be accessible only by removing the core, with the control key, from the cylinder body.
15. Spindle to be designed to prevent forced entry from attacking of lever
16. Provide locksets with 7-pin removable and interchangeable core cylinders
17. Each lever to have independent spring mechanism controlling it
18. Core face must be the same finish as the lockset.

D. Exit Devices:

1. Exit devices to meet or exceed BHMA for ANSI 156.3, Grade 1.
2. Exit devices to be tested and certified by UL or by a recognized independent laboratory for mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.
3. Exit devices chassis to be investment cast steel, zinc dichromate.
4. Exit devices to have stainless steel deadlocking ¾” through latch bolt.
5. Exit devices to be equipped with sound dampening on touchbar.
6. Non-fire rated exit devices to have cylinder dogging.
7. Non-fire rated exit devices to have ¼” minimum turn hex key dogging.
8. Touchpad to be “T” style constructed of architectural metal with matching metal end caps.
9. Touchbar assembly on wide style exit devices to have a ¼” clearance to allow for vision frames.
10. All exposed exit device components to be of architectural metals and “true” architectural finishes.
11. Provide strikes as required by application.
12. Fire exit hardware to conform to UL10C and UBC 7-2. UL tested for Accident Hazard.
13. The strike is to be black powder coated finish.
14. Exit devices to have field reversible handing.
15. Provide heavy duty vandal resistant lever trim with heavy duty investment cast stainless steel components and extra strength shock absorbing overload springs. Lever shall not require resetting. Lever design to match locksets and latchsets.
16. Provide 9001-Quality Management and 14001-Environmental Management.
17. Vertical Latch Assemblies to have gravity operation, no springs.

E. Door Closers shall:

1. Tested and approved by BHMA for ANSI 156.4, Grade 1
2. UL10C certified
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Closer shall have extra-duty arms and knuckles
5. Conform to ANSI 117.1
6. Maximum 2 7/16 inch case projection with non-ferrous cover
7. Separate adjusting valves for closing and latching speed, and backcheck
8. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions
9. Full rack and pinion type closer with 1½“ minimum bore
10. Mount closers on non-public side of door, unless otherwise noted in specification
11. Closers shall be non-handed, non-sized and multi-sized.

F. Low Energy Operators shall:

1. Conform to ANSI/BHMA A156.19 as a low energy power opening device.
2. Be listed under UL228, UL325, UL10B, UL10C, UBC 7.2 and FCC listed.
3. Shall be non-handed.
4. Be rated for door panels weighing up to 350 lbs (160 kg).
5. The manual door closer within the Low Energy Operator shall be adjusted to meet Americans with Disabilities Act (ADA) 5 lbs opening force [Push-Side applications only]
6. Operator shall be isolated from mounting plate with rubber mounts to mitigate the transmission of forces between the door and the operator.
7. Shall have a position encoder to communicate with microprocessor.
8. Incorporate a resetable powered operation counter that tracts both powered and non-powered cycling of the Operator.
9. Incorporate the following adjustable settings:
   i. Hold Open Timer, to 28 seconds
   ii. Open Speed
   iii. Backcheck Speed
   iv. Vestibule Sequence Timer
10. Include DIP switch controls for:
   i. On board diagnostics
   ii. Power close
   iii. Push and Go operation
   iv. Time delay logic for electrified hardware components
11. Include terminals for auxiliary controls including:
   i. Activation devices; provide two discrete inputs
   ii. Vestibule sequencing
12. Control switches including:
   i. Day/Night open (illuminated)
   ii. Power On-Off
13. Includes adhesive Low Energy Operator mounting templates.
14. R-14 Aluminum Allow Materials

15. For non-powered operation, the unit shall function as a standard door closer with adjustable spring force size 1 thru 6.

G. Door Stops: Provide a dome floor or wall stop for every opening as listed in the hardware sets.

1. Wall stop and floor stop shall be wrought bronze, brass or stainless steel.
2. Provide fastener suitable for wall construction.
3. Coordinate reinforcement of walls where wall stop is specified.
4. Provide dome stops where wall stops are not practical. Provide spacers or carpet riser for floor conditions encountered

H. Over Head Stops: Provide a concealed overhead when a floor or wall stop cannot be used or when listed in the hardware set.

1. Concealed overhead stops shall be heavy duty bronze or stainless steel.

I. as indicated in hardware set. Furnish oval-head countersunk screws to match finish.

J. Pulls with plates: Provide with four beveled edges ANSI J301, .050 thickness Plate s with ANSI J401 Pull as listed in hardware set. Provide proper fasteners for door construction.

K. Push Pull Bars: Provide ANSI J504, .1” Dia. Pull and push bar model and series as listed in hardware set. Provide proper fasteners for door construction.

L. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

M. Door Bolts: Flush bolts for wood or metal doors.
1. Manual flush bolts, Certified ANSI/BHMA 156.16 at openings where allowed local authority.
2. Provide Dust Proof Strike, Certified ANSI/BHMA 156.16 at doors with flush bolts without thresholds.

N. Coordinator and Brackets: Provide a surface mounted coordinator when automatic bolts are used in the hardware set.

1. Coordinator, Certified ANSI/BHMA A1156.3 Type 21A for full width of the opening.
2. Provide mounting brackets for soffit applied hardware.
3. Provide hardware preparation (cutouts) for latches as necessary.

O. Magnetic Door Holders: Provide magnetic door holders with Tri-Voltage that can be wired 12VDC, 24V AC/DC or 120V AC

1. Wall magnetic door holders shall be surface mounted.
2. Armature shall be thru-bolted and can be provided with any projection required.
3. Models will be available in US28, sprayed finishes and US32D.

4 Floor mounted shall be provided for a single door or double door hold open application.

P. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.

Q. Weatherstripping: Provide at head and jambs only those units where resilient or flexible seal strip is easily replaceable. Where bar-type weatherstrip is used with parallel arm mounted closers install weatherstrip first.

1. Weatherstrip shall be resilient seal of (Neoprene, Polyurethane, Vinyl, Pile, Nylon Brush, Silicone)
2. UL10C Positive Pressure rated seal set when required.

R. Door Bottoms/Sweeps: Surface mounted or concealed door bottom where listed in the hardware sets.

1. Door seal shall be resilient seal of (Neoprene, Polyurethane, Nylon Brush, Silicone)
2. UL10C Positive Pressure rated seal set when required.

S. Thresholds: Thresholds shall be aluminum beveled type with maximum height of ½” for conformance with ADA requirements. Furnish as specified and per details. Provide fasteners and screws suitable for floor conditions.

T. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

2.3 FINISH:

A. Designations used in Schedule of Finish Hardware - 3.05, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products

B. Powder coat door closers to match other hardware, unless otherwise noted.

C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

2.4 KEYS AND KEYING:

A. Provide keyed brass construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system. Permanent cores and keys (prepared according to the accepted keying schedule) will be furnished to the Owner.

B. Cylinders, removable and interchangeable core system: Best 7-pin.

C. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate."

D. Transmit Grand Masterkeys, Masterkeys and other Security keys to Owner by Registered Mail, return receipt requested.

E. Furnish keys in the following quantities:

1. 1 each Grand Masterkeys
2. 4 each Masterkeys
3. 2 each Change keys each keyed core
4. 15 each Construction masterkeys
5. 1 each Control keys

F. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.

G. Keying Schedule: Arrange for a keying meeting, and programming meeting with Architect Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying and programming complies with project requirements. Furnish 3 typed copies of keying and programming schedule to Architect.

2.5 DOOR HARDWARE GROUPS

Finish List

Code	Description
AL	Aluminum
626	Satin Chromium Plated
628	Satin Aluminum, Clear Anodized
630	Satin Stainless Steel
689	Aluminum Painted
BLACK	Black
US32D	Stainless Steel, Dull

Hardware Groups

HW- 1

EXTERIOR OVERHEAD DOOR 100C, 100D, 100E & 100F

ALL HARDWARE BY DOOR MANUFACTURER

HW-2

EXTERIOR DOOR 100A & 100B

1	CONTINUOUS HINGE	ST	661HD UL 83" AL
1	EXIT DEVICE	VO	99 L-NL
1	CYPHER LOCKSET	TRI	ETDL1S/26DV99
1	PANIC EXIT DEVICE TRIM	TRI	ETDLS1Q/26DV99
1	CYPHER ADAPTER COLLAR	TRI	ET-BIC
1	IC MORTISE CYLINDER	BE	1E74-626
1	LOCK GUARD	TR	5000-T
1	DOOR CLOSER W/ SPRING STOP	LCN	4041-EDA
1	THRESHOLD	PE	254 X 4 AFG MSES10
1	DOOR SWEEP	PE	18061 CNB
1	WEATHERSTRIP	PE	2891 APK @ HEAD
1	WEATHERSTRIP	PE	290 APK @ JAMBS
1	KICK PLATE	TR	K1250 X 630 - 12" X 34" RO

HW-3

INTERIOR DOOR 101

3	HINGES	ST	FBB179 4 1/2 X 4 1/2 US26D
1	PRIVACY LOCKSET	SCH	ND40S 630
1	DOOR CLOSER	LCN	4041-EDA
1	WALL BUMPER	TR	1270CX 626
1	SMOKE SEAL	PE	S88D HEAD AND JAMBS
1	KICK PLATE	TR	K1250 X 630 - 12" X 34" RO
1	MOP PLATE	TR	KM650 X 630 - 6" X 34" RO

HW-4
INTERIOR DOOR 102

3	HINGES	ST	FBB179 4 1/2 X 4 1/2 US26D
1	CLASSROOM LOCKSET	SCH	ND70PD SFIC 630
1	CORE	BE	1E74-626
1	DOOR CLOSER	LCN	4041-EDA
1	WALL BUMPER	TR	1270CX 626
1	SMOKE SEAL	PE	S88D HEAD AND JAMBS
1	KICK PLATE	TR	K1250 X 630 - 12" X 34" RO

HW-5
EXTERIOR DOOR 104

2	HINGES	ST	FBB179 4 1/2 X 4 1/2 US26D
1	CLASSROOM LOCKSET	SCH	ND70PD SFIC 630
1	CORE	BE	1E74-626
1	DOOR CLOSER	LCN	4041-EDA
1	OVERHEAD STOP		1020 SERIES

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Blocking: Provide solid blocking for wall mounted components.

C. Fasteners: Check all conditions and use fastening devices as needed to securely anchor all hardware as per manufacturer's published templates. Self-tapping sheet metal screws are not acceptable. Door Closers, Exit Devices, and Surface Overhead Stops shall be mounted with Sex Bolts.

D. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Mounting Heights: Mounting Heights: Mount units at heights as recommended in "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames (2001)" by Doors and Hardware Institute, except as indicated below. Products not specifically covered shall be installed in accordance with the manufacturer templates and instructions.

1. Hinges:

    a. Top Hinge: 7-1/4”, Top of frame rabbet to centerline of hinge.
    b. Bottom Hinge: 12-1/4”, Bottom of Frame to centerline of hinge
    c. Intermediate Hinges: Centered, equal spacing between top and bottom hinges.

2. Mortise Lock Strikes: 40”, bottom of frame to centerline of Strike.
3. Wall Stops: Locate Wall Stops intended for use with Lever Handle Locksets and Exit Devices at the Centerline of the Spindle or Pull.
4. Push/Pulls Sets: 42”, bottom of frame to center of Push Bar.

B. Installation: Install each hardware item in compliance with manufacturer's instructions.

1. Cutting and Fitting: Wherever cutting and fitting are required to install hardware surfaces which will be painted or finished at a later time, install each item completely and then remove and store in a secure place. After completion of the finishes, re-install each item.
2. Door and Frame Finishes: Do not install surface-mounted items until finishes have been completed on the substrate.
3. Fire Rated Openings: Comply with NFPA 80.
4. Door Closers: Located to provide the maximum degree of opening that project conditions will allow. Door Closers shall not be used to stop the door, except for models equipped with an integral stop-on-the-arm feature.
5. Overhead Stops: Locate Overhead Stop and Holders to provide the maximum degree of opening that project conditions will allow.
6. Floor Stops: Locate Floors Stops at maximum degree of opening that project conditions will allow. Do not locate Floor Stops where they create a hazardous condition. Stops should be located no more than 1/3 Door width from the latch edge of the Door.
7. Thresholds: Set exterior Thresholds in a bed of butyl rubber sealant in conformance with Division 07 requirements. Remove excess sealant. Caulk edges and joints to exclude moisture.
8. Weatherstrip: Mount and adjust Rigid Jamb Weatherstrip prior to mounting Parallel Arm Door Closers. Weatherstrip shall be installed to provide a continuous seal at head and jambs. Do not notch Weatherstrip for Door Closer shoe. Lower Door Closer Cylinder Assembly ¼” to allow for mounting of Soffit Shoe on top of the Weatherstrip. Provide Parallel Arm 5th hole spacer of increased thickness to allow for revised location.

C. Adjustment: Adjust and check each operating item of hardware and each door to insure proper operation or function of every unit. Replace units, which cannot be adjusted to operate freely and smoothly.

3.3 FINAL ADJUSTMENT

A. Final Adjustment: Wherever hardware installation is made more than one (1) month prior to acceptance or occupancy, make a final check and adjustment of all hardware items during the week prior to acceptance or occupancy. Clean and lubricate operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

B. Door Closer Adjustment: After mechanical systems have been balanced, adjust Door Closers to comply with following ICC/ANSI A117.1 requirements.

1. Closing Speed: With the door open 70 degrees; the door closer shall be adjusted so that the door will take at least three (3) seconds to move to a point where the leading edge of the door is inches three from latching.
2. Opening Force: The maximum force for pushing or pulling a door open shall be as follows: (these forces do not apply to the force required to retract latch bolts or disengage other devices securing the door)

    a. Fire Doors: The minimum opening force allowable by the appropriate administrative authority.
    b. Exterior Doors: 10.0 lbf.
    c. Interior Doors: 5.0 lbf.

C. Adjust backcheck to prevent damage to the closer, hardware, door and frame, and wall.

D. Instruction: Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes

3.4 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

END OF SECTION 08 71 00

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

1. Doors.
2. Exterior Windows

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 92 00 – JOINT SEALANTS, for joint sealants.
2. SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES, for metal frames to receive glazing products specified in this Section.
3. SECTION 08 51 13 - ALUMINUM WINDOWS, for aluminum windows to receive insulated glazing products specified in this Section.

1.4 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Interspace: Space between lites of an insulating-glass unit.

1.5 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets

to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Design glazing units to meet design loads indicated on Drawings.

1. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

D. Safety Glazing: Provide safety glazing at all locations required by the International Building Code for protection from human impact.

1.6 ACTION SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installers; manufacturers of insulating-glass units with sputter-coated, low-e coatings; spandrel glazing; glass testing agency.

B. Product Certificates: For glass and glazing products, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for coated glass, insulating glass, and spandrel glass.

D. Warranties: Sample of special warranties.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved by coated-glass manufacturer.

B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

D. Source Limitations for Glass: Obtain glass from single source from single manufacturer for each glass type.

E. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA's "Laminated Glazing Reference Manual" and GANA's "Glazing Manual."
2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

F. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

G. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction.

H. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

I. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review temporary protection requirements for glazing during and after installation.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.10 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F.

1.11 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 LAMINATED GLASS (Interior door lite)

A. Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Thickness: Provide 1/4-inch thickness unless additional thickness is necessary to meet requirements for opening size.
2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Application: Provide where required to meet specific performance requirements. Provide laminated safety glazing as an option to tempered safety glazing.

4. Construction: Laminate glass with to comply with interlayer manufacturer's written recommendations.
5. Interlayer Color: Clear unless otherwise indicated.

2.2 INSULATING GLASS (exterior windows)

A. Basis of Design: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1. Cardinal Glass Industries Company; Cardinal IG

a. Cardinal LoE 270.

B. Insulating-Glass Units: Provide insulated glazing units at all exterior conditions. Provide units as follows:

1. Thickness: 1-inch.
2. Shading Coefficient: 0.41
3. Solar Heat Gain Coefficient: 0.36
4. Center of Glass U-Factor: 0.25
5. Interspace: Argon gas.

C. Factory-assemble units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.

1. Sealing System: Dual seal, with manufacturer's standard primary and secondary.
2. Spacer: Manufacturer's standard spacer material and construction.

2.3 GLAZING GASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:

1. Neoprene complying with ASTM C 864.
2. EPDM complying with ASTM C 864.
3. Silicone complying with ASTM C 1115.
4. Thermoplastic polyolefin rubber complying with ASTM C 1115.

B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.

1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.

2.4 GLAZING SEALANTS

A. General:

1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

   a. Dow Corning Corporation; 790.

C. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.

2.5 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
2. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.6 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

G. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.7 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.7 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 08 80 00

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section Includes:

1. Interior gypsum board, and accessories.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 07 21 00 – BUILDING INSULATION, for insulation and vapor retarders installed in assemblies that incorporate gypsum board.
2. SECTION 09 91 23 – INTERIOR PAINTING, for primers applied to gypsum board surfaces.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For the following products:

1. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

C. Shop Drawings: Provide shop drawings indicating location and detail for all control joints in gypsum board installation. Provide interior elevations of wall areas to receive control joints.

1.5 QUALITY ASSURANCE

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

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.6 STORAGE AND HANDLING

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

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install interior products until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

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

2.2 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C 36 or ASTM C 1396, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American Gypsum Co.

b. National Gypsum Company.
c. USG Corporation.

2. Core: Type X.
3. Thickness: 5/8 inch.
4. Long Edges: Tapered.

2.3 TRIM ACCESSORIES

A. Typical Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:

a. Cornerbead.
b. LC-Bead: J-shaped; exposed long flange receives joint compound.
c. L-Bead: L-shaped; exposed long flange receives joint compound.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

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

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

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

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

C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

D. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."

2.6 TEXTURE FINISHES

A. Primer: As recommended by textured finish manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

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

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

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

G. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:

1. Type X: All uses, except as noted below.
2. Ceiling Type: Ceiling surfaces.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

    a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.

3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 CONTROL JOINTS

A. Form control and expansion joints with space between edges of adjoining gypsum panels. Locate joints at doors, cased openings, or similar vertical separation, from corner of door or cased opening to ceiling and as indicated below.

1. Partitions and Wainscot:

a. Install control joints in partitions and wall furring exceeding 30 feet in length.
b. Space control joints not more than 30 linear feet o.c.
c. Install control joints in new wainscot assemblies and in existing gypsum board finish above.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints according to ASTM C 840, and at locations indicated on Drawings, every 50 lineal feet of wall area (minimum), and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. LC-Bead: Use at exposed panel edges.

3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: At new panel surfaces that will be exposed to view.

a. Primer and its application to surfaces are specified in other Division 09 Sections.

3.7 FINISHES

A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.

B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.

C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written recommendations.

3.8 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00

SECTION 09 91 13 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes surface preparation and the application of paint systems on the following miscellaneous exterior substrates:

1. Steel.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 09920 – INTERIOR PAINTING, for surface preparation and the application of paint systems on interior substrates.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

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

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Sherwin-Williams Company (The).

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. Colors: As indicated in Drawings.

2.3 EXTERIOR STEEL PAINT SYSTEM

A. Latex System: Gloss Finish.

B. 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry).

C. 2nd Coat: S-W A-100 Exterior Latex Gloss, A8 Series.

D. 3rd Coat: S-W A-100 Exterior Latex Gloss, A8 Series (4 mils wet, 1.3 mils dry per coat).

E. Gloss: Level 3-4.

2.4 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

A. Apply paints per manufacturer's written instructions and recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09 91 13

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes surface preparation and the application of paint and transparent finish systems on the following interior substrates:

1. Steel.
2. Masonry.
3. Gypsum Wallboard.

1.3 RELATED SECTIONS

A. Related Sections include the following:

1. SECTION 09910 – EXTERIOR PAINTING, for surface preparation and the application of paint systems on exterior substrates.

1.4 SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

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

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Sherwin-Williams Company (The): General paint and varnish coatings.

B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Dry-Fog Coatings: 400 g/L.
4. Primers, Sealers, and Undercoaters: 200 g/L.
5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
7. Pretreatment Wash Primers: 420 g/L.

A. Colors: Colors: Colors: Match existing colors for like substrates, as indicated in Drawings.

2.3 GYPSUM DRYWALL PAINT SYSTEM

A. Latex System: Eggshell / Satin Finish

B. 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).

C. 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series

D. 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).

2.5 STEEL PAINT SYSTEM

A. Latex System: Semi-Gloss Finish

B. 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5.0 mils wet, 2.0 mils dry).

C. 2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series.

D. 3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series (4.0 mils wet, 1.6 mils dry per coat).

2.6 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

A. Apply paints per manufacturer's written instructions and to recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
4. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply

additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09 91 23

SECTION 10 44 16 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications (MASS), General and Supplementary Conditions apply to this Section.

1.2 SECTION INCLUDES

A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher and mounting brackets.

B. Product Schedule: For fire extinguishers. Coordinate final fire extinguisher schedule with fire protection cabinet schedule to ensure proper fit and function. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

1. Provide fire extinguishers approved, listed, and labeled by FMG.

1.7 COORDINATION

A. Coordinate type and capacity of fire extinguishers with fire extinguisher cabinets specified in Section 10 44 13, “Fire Extinguisher Cabinets” to ensure fit and function.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. Fire Extinguishers: Type, size, and capacity for each fire extinguisher cabinet and mounting bracket indicated.

1. Basis-of-Design Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

a. Larsen's Manufacturing Company; Model MP5.

2. Valves: Manufacturer's standard.
3. Handles and Levers: Manufacturer's standard.
4. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.

B. Multipurpose Dry-Chemical Type in Steel Container: UL-rated 2-A:10-B:C, 5-lb nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

2.2 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated.

1. Provide at all fire extinguisher locations designated “FE” in Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches above finished floor to top of fire extinguisher.

B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 10 44 16

SECTION 12 50 00 - FURNITURE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Municipality of Anchorage Standard Specifications – Buildings (MASSB), General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Storage racks.
2. Tire rack.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include installation details, material descriptions, dimensions of individual components, and finishes for each appliance.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain shelving from single source from single manufacturer.

2.2 SHELVING

A. Basis-of-Design Product: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

1. Levolor Contract; a Newell Rubbermaid company;

a. Riviera DustGuard 1-inch Blind.

B. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radius corners.

1. Width: 1-inch.
2. Spacing: 15.7 slats per foot.
3. Thickness: Not less than 0.0085-inch.
4. Finish: One color.
5. Ionized Coating: Antistatic, dust-repellent, baked polyester finish.

C. Headrail: Formed channel-shaped steel; long edges returned or rolled; fully enclosing operating mechanisms on three sides and end plugs and the following:

1. Integrated Headrail/Valance: Curved face.
2. Tilt limiter with preselected degree settings
3. Top and end braces
4. Cord lock: crash-proof with sufficient sensitivity to lock slats at desired height upon release of cords.

D. Bottom Rail: Formed-steel tube, with plastic or metal capped ends top contoured to match crowned shape of slat; with enclosed ladders and tapes to prevent contact with sill. Finish rail in same color as slats.

E. Ladders: Evenly spaced to prevent long-term slat sag.

1. For Blinds with Nominal Slat Width 1-Inch or More: Braided polyester cord design consisting of vertical components of not less than 0.043-inch nor more than 0.068-inch in diameter and integrally braided ladder rungs of not less than 4 threads; space ladders not further than 23 inches apart and 7 inches from ends of slats.

F. Lift Cords: Manufacturer's standard.

G. Tilt Control: Assembly including disengaging worm and gear mechanism to eliminate overdrive, low-friction gear tilter, drum and cradle at each ladder, tilt rod, tape clips, and grommet guides to prevent wear on ladder and cords; designed to hold slats at any angle and prevent movement of slats due to vibration, operated as follows:

1. Tilt Operation: Manual with detachable clear solid plastic wand.
2. Retain subparagraph below or delete if one-third to one-half length of blind specified in WCSC standard is acceptable.
3. Length of Tilt Control: Full length of blind.
4. Tilt: Full.

H. Lift Operation: Manual, cord lock; locks pull cord to stop blind at any position in ascending or descending travel. Size cord to suit blind type. Include self-aligning cord equalizers designed to maintain horizontal blind position.

I. Mounting: Between-jamb, head mounting, permitting easy removal and replacement without damaging blind or adjacent surfaces and finishes; with spacers and shims required for blind placement and alignment indicated.
   1. Provide intermediate support brackets if end support spacing exceeds spacing recommended by manufacturer for weight and size of blind.

J. Colors, Textures, Patterns, and Gloss: As selected by Architect from manufacturer's full range.

   1. .

PART 3 - EXECUTION

3.1 INSTALLATION

A. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate.

END OF SECTION 12 50 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Specification Section 00 72 13 - Municipality of Anchorage Standard Specifications – Buildings (MASSB), dated February 2012, apply to this Section.

B. Municipality of Anchorage Standard Specifications, 2015 (MASS 2015), apply to this Section. Specification Section 32 00 00 applies only to the Civil designated drawings, unless otherwise stated, reference paragraph 1.2 below.

1.2 APPLICABLE PUBLICATIONS

A. MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS, 2015 (MASS) and related Standard Details of MASS 2015 form a part of this specification as though physically contained herein. MASS 2015 can be obtained at the following public website –

http://www.muni.org/Departments/project_management/Pages/MASS.aspx

B. The Contractor shall perform all site work construction in accordance with MASS 2015 as herein revised. All work under this Contract shall comply with the latest edition of all applicable codes, ordinances, and standards and all associated addenda.

C. The following MASS 2015 Sections and Standard Details identified below are related to this Contract. Other MASS 2015 Sections or Articles may apply.

1. Section 20.01 General

a. Section 20.02 Storm Water Pollution Prevention Plan
b. Section 20.04 Clearing and Grubbing
c. Section 20.07 Removal of Sidewalk and Concrete Apron
d. Section 20.08 Removal of Curb and Gutter
e. Section 20.09 Removal of Pavement
f. Section 20.10 Excavation for Traffic Ways
g. Section 20.11 Grading of Existing Surfaces
h. Section 20.12 Dewatering
i. Section 20.13 Trench Excavation and Backfill
j. Section 20.15 Furnish Trench Backfill
k. Section 20.16 Furnish Bedding Material
l. Section 20.19 Furnish Foundation Backfill
m. Section 20.20 Unclassified Fill and Backfill
n. Section 20.21 Classified Fill and Backfill
o. Section 20.22 Leveling Course
p. Section 20.26 Insulation

q. Section 20.27 Disposal of Unusable or Surplus Material
r. Section 20.30 Shoring, Sheeting and Bracing/Shoring and Sheeting Left In the Trench and Portable

2. Division 30.00 – Portland Cement Concrete (CIVIL SITE WORK ONLY)

a. Section 30.01 General
b. Section 30.02 Portland Cement Concrete Curb and Gutter, and Valley Gutter
c. Section 30.03 Portland Cement Concrete Sidewalks
d. Section 30.04 Cement Concrete Curb Ramps
e. Section 30.11 Sidewalk Joint Sealant

3. Division 40.00 - Asphalt Surfacing

a. Section 40.01 General
b. Section 40.04 Tack Coat
c. Section 40.06 Asphalt Concrete Pavement

4. Division 55.00 – Storm Drain Systems

a. Section 55.01 General
b. Section 55.02 Furnish and Install Pipe
c. Section 55.05 Manholes and Catch Basin Manholes

5. Division 65.00 - Construction Surveying

a. Section 65.01 General
b. Section 65.02 Construction Survey

6. Division 70.00 – Miscellaneous

a. Section 70.01 General
b. Section 70.08 Reset Fence
c. Section 70.10 Traffic Markings
d. Section 70.11 Standard Signs
e. Section 70.12 Traffic Maintenance
f. Section 70.13 Bollards

7. Division 75.00 – Landscaping

a. Section 75.03 Topsoil
b. Section 75.0 Seeding

8. Standard Details

a. 20-08 Trench Backfill and Bedding Layout
b. 20-09 Pipe Insulation
c. 20-12 Class "D" Bedding Material

d. 20-13 Foundation Materials
e. 20-14 Type II Classified Fill and Backfill
f. 20-15 Type II-A Classified Fill and Backfill
g. 20-18 Leveling Course
h. 30-01 Curb and Gutter Cross Sections
i. 55-04 Storm Drain Manhole Type I
j. 55-09 Storm Drain Beehive Intake Cover
k. 55-18 Manhole Ring Adjustment
l. 55-19 Catch Basin Inlet and Hood for Type 1 Curb and Gutter
m. 65-01 Field Book Index
n. 65-02 Control Reference Points
o. 65-03 Monument Recovery and Horizontal Control
p. 65-04 Vertical Control
q. 65-07 Grade Stakes/Blue Tops
r. 65-08 Drainage Structures
s. 65-10 Storm Sewer Layout
t. 65-12 Curb and Gutter Stakes
u. 65-14 Static GPS Horizontal Control
v. 65-15 Static GPS Horizontal Control
w. 70-31 Concrete Foundation for Sign Post

1.3 MODIFICATIONS AND/OR ADDITIONS TO MUNICIPALITY OF ANCHORAGE SPECIFCATIONS, 2015 (MASS 2015)

A. Delete all references to measurement and basis of payment in all Divisions.

B. All Divisions and Sections: All staking or surveys that are indicated to be completed by the "Owner" or the "Engineer" shall be completed by the Contractor.

C. Division 20.00 – Earthwork

1. Section 20.10 - Excavation for Traffic Ways

Modify Section title to read: "SECTION 20.10 Excavation for Traffic Ways and Site Improvements".

2. Article 10.4 - Unusable and Usable Excavation

Add the following paragraph:

Where over-excavation is required, the additional work shall include the necessary excavation, placement and compaction of Type II-A Classified Material required to restore the excavation to the original depth indicated on the drawings. Approvals to be obtained by the Owner prior to any over-excavation and placement of related backfill.

1.4

A. Division 70.00 – Miscellaneous

1. Section 70.10 - Traffic Markings

a. Article 70.2 – Materials

Delete all references to the use of glass spheres, retroreflective preformed patterned pavement tape, and methyl methacrylate. All pavement markings shall be paint with color as specified.

PRODUCTS (Not Used)

EXECUTION (Not Used)

END OF SECTION 32