



STATE OF ALASKA
Department of Corrections
Division of Administrative Services
802 3rd Street, Suite 220
Douglas, AK 99824

Invitation to Bid

No. 230001184-3

Date of Issue: **August 27, 2024**

Project:

**Yukon Kuskokwim Correctional Center (YKCC) Recreational
Area Renovations**
Bethel, Alaska

Bidders Are Not Required to Return This Form.

Michael Lim
Procurement Manager
Department of Corrections

John Gard
Facilities Manager / Project Manager
Department of Corrections

TABLE OF CONTENTS

Division 00 - Bidding and Contract Requirements

00020	Invitation To Bid/Notice to Bidders, 25D-7 (7/18)
00100	Information to Bidders, 25D-3S (3/19)
00102	Required Documents, 25D-4S (7/18)
00310	Bid Form, 25D-9 (7/03)
00311	Alaska Products Preference Worksheet (12/19)
00312	Bid Schedule (00312)
00320	Alaska Bidder Preference Certification, 25D-19
00410	Bid Bond, 25D-14 (8/01)
00420	Bid Modification, 25D-16 (7/18)
00430	Subcontractor List, 25D-5 (5/17)
00510	Construction Contract, 25D-10A (8/01)
00610	Payment Bond, 25D-12 (8/01)
00620	Performance Bond, 25D-13 (8/01)
00670	Contractor's Questionnaire, 25D-8 (8/01)
00700	General Conditions (12/11)
00800	Supplementary Conditions
00830	Laborers' and Mechanics' Minimum Rates of Pay

(Use the State wage rates that are in effect 10 days before Bid Opening. State wage rates can be obtained at <http://www.labor.state.ak.us/lss/pamp600.htm>.)

Division 01 –Administrative Requirements

01000	General Requirements
01540	Security
01560	Cleaning

Division 03 – Concrete

03 20 00	Concrete Reinforcing
03 30 00	Cast-In-Place Concrete

Division 05 – Metals

05 12 00	Structural Steel
05 50 00	Metal Fabrications
05 51 19	Metal Grating Stairs and Walks

Division 06 – Wood, Plastics, and Composites

06 10 00	Rough Carpentry
06 16 00	Sheathing

Division 07 – Thermal and Moisture Protection

07 21 00	Thermal Insulation
07 25 00	Weather Barriers
07 42 13	Formed Metal Wall Panels
07 62 00	Sheet Metal Flashing and Trim
07 92 00	Joint Sealants

Division 08 – Openings

08 34 53 Security Doors and Frames
08 71 16 Detention Door Hardware
08 80 00 Glazing

Division 09 – Finishing

09 22 16 Non-Structural Metal Framing
09 29 00 Gypsum Board
09 90 00 Painting

Division 10 – Specialties

10 44 16 Fire Extinguishers

Division 11 – Equipment

11 66 23 Gymnasium Equipment

Miscellaneous

Alaska Veterans Preference Affidavit 25D-17
Security Clearance / PREA Form (**Required for Site Inspection**)
Substitute Request Form

CONTRACT DRAWINGS

(Bound Separately)

IMPORTANT NOTICE: All contractors will need to contact Michael Lim at 907-465-6014 or Michael.lim@alaska.gov to request the drawings. Drawings will not be posted online or provided to any plans room.

END TABLE OF CONTENTS



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

INVITATION TO BID

for Construction Contract

Date August 27, 2024

Yukon Kuskokwim Correctional Center (YKCC) Recreational Area Renovations

Project Number: 230001184-3

The Department invites bidders to submit bids for furnishing all labor, equipment, and materials and performing all work for the project described below. **Bids will be opened publicly at 2:00 PM local time, in the Douglas Island Building, Suite 220, 802 3rd Street, Douglas Alaska, on October 15, 2024.**

Location of Project:	Yukon Kuskokwim Correctional Center, 1000 Chief Eddie Hoffman Hwy, Bethel, Alaska 99559
Contracting Officer:	Michael Lim
Issuing Office:	Alaska Department of Corrections 802 3 rd Street, Suite 220 Douglas, Alaska 99824
	State Funded <input checked="" type="checkbox"/> Federal Aid <input type="checkbox"/>

Description of Work:

The Alaska Department of Corrections (DOC) is accepting bids from general construction contractors to serve as Construction manager / General Contractors for constructing the YKCC Recreational Yard project in Bethel, Alaska. This procurement encompasses the provision all material, labor, supplies, equipment, site prep, permits, lodging, freight and supervision necessary for the complete construction of a tension fabric building enclosure, pilings and foundation on the correctional facility grounds in Bethel, Alaska.

Note: This project is in an active Jail and the owner will be operating the facility 24/7 during the project. As such, the contractor is required to work inside and outside of the secure perimeter. All tools and materials shall be removed and stored outside of the secure perimeter at the end of the workday or in an approved locked container. Tools inventory sheets or shadow board will be required for any tools secured on site.

Project DBE Utilization Goal: Race-Neutral

The Engineer's Estimate is around \$2,000,000.00 NTE

All work shall be completed in N/A Calendar Days, or by **December 30, 2026**
The Department will identify interim completion dates, if any, in the Special Provisions.

The apparent successful bidder must furnish a payment bond in the amount of 100% of the contract and a performance bond in the amount of 100% of the contract as security conditioned for the full, complete, and faithful performance of the contract. The apparent successful bidder must execute the said contract and bonds within **ten (10)** calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of their bid.

Submission of Bidding Documents

ALL HAND DELIVERED BIDS, INCLUDING ANY AMENDMENTS OR WITHDRAWALS, MUST BE RECEIVED PRIOR TO BID OPENING. BIDS SHALL BE SUBMITTED ON THE FORMS FURNISHED AND MUST BE IN A SEALED ENVELOPE MARKED AS FOLLOWS:

Bidding Documents for Project: YKCC Recreation Area Renovations Yukon Kuskokwim Correctional Center 1000 Chief Eddie Hoffman Hwy, Bethel, Alaska 99559 Project No. 230001184-3	ATTN: Michael Lim State of Alaska Department of Corrections 802 3 rd Street, Suite 220 Douglas, Alaska 99824 OR Submit a bid via email to: doc.procurement@alaska.gov
--	---

ENSURE THAT YOU PUT YOUR RETURN BUSINESS NAME AND ADDRESS ON THE SEALED ENVELOPE AS WELL.

It is incumbent upon the bidder to ensure its bid, any amendments, and/or withdrawal arrive, in its entirety, at the location and before the deadline stated above. A bidder sending a bid amendment or withdrawal via email must transmit its documentation to the Department at this email address: doc.procurement@alaska.gov, or phone number: (907) 465-6014.

To be responsive, a bid must include a bid guaranty equal to 5% of the amount bid. (*When calculating the bid amount for purposes of determining the 5% value of the bid guaranty, a bidder shall include its base bid amount, plus the amount bid for alternate and supplemental bid items, if any.*)

The Department hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

NOTICE TO BIDDERS

Bidders are hereby notified that the following data may assist in preparing bids:

DOC Form 25D-3, Information to Bidders, is part of these bid documents.

QUESTIONS AND PLANS / SPECIFICATIONS: One copy per contractor at no charge (additional copies may be purchased at .25 cents per page). All questions relating to this project and solicitation shall be directed to:

Michael Lim, DOC Procurement Manager

Phone: (907) 465-6014, Email: michael.lim@alaska.gov

QUESTIONS:

Questions pertaining to the project requirement and specifications should be in writing and received by the procurement officer no later than close of business **October 4, 2024**, to allow adequate time for the issuance of an addendum, if needed.

OTHER INFORMATION:

YKCC On-Site Work Schedule Limitations: On-site work shall be 7 days a week, from 7:00 AM until 5:00 PM. No overtime allowed unless approved by the DOC.

Pre-Bid Inspection of Site Meeting: A Pre-Bid Site Visit is scheduled for September 25, 2024, at 1:00 PM local time and is **MANDATORY**. Interested vendors must contact: Project Manager: John Gard, (907) 269-7391, to register for the inspection and submit the "Clearance Form" for security sergeant to run a background check to allow access to the facility. A form must be filled out for everyone attending the site visit. Forms must be submitted 72 hours in advance. Clearance form is in this bid packet. Email your forms to john.gard@alaska.gov. Vendors are to meet the Project Manager in the Administrative Lobby of the facilities access to the correctional facility and surrounding area must be controlled.

Special Needs: If you require special accommodation due to a disability in order to inspect the property, please notify John Gard at 907-269-7391 at least 48 hours in advance of site visit.

Authorities: This Invitation to Bid is being solicited by the Department of Corrections (DOC) under delegated authority from the Department of Transportation and Public Facilities (DOT/PF). AS 36.30 and DOT/PF forms, policies and procedures will be used in the award and administration of this contract. However, where the "DOT/PF" is referenced, it should be considered as referencing the Department of Corrections under delegated authority from DOT/PF.

STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

INFORMATION TO BIDDERS

This Information to Bidders outlines requirements that a bidder must follow when submitting a bid. The Department will reject a noncompliant bid.

100.01 BIDDERS QUALIFICATIONS

A bidder shall:

Submit evidence of a valid Department of Commerce, Community, and Economic Development certificate of Contractor Registration (Contractor Registration), under AS 08.18, and submit evidence of a valid Alaska Business License prior to award; and

When requested, submit a completed Contractor's Questionnaire (Form 25D-8) stating previous experience in performing comparable work, business and technical organization, financial resources, and equipment available to be used in performing the work.

Before a bid is considered for award, the bidder may be requested by the Department to submit a statement of facts, in detail, as to his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the contemplated work.

100.02 CONTENTS OF BID PACKAGE

Upon request, the Department will furnish prospective bidders with a bid package, at the price stated in the Invitation To Bid.

The bid package includes the following:

- 1) Location and description of the project;
- 2) Time in which the work must be completed;
- 3) Amount of the bid guaranty;
- 4) Date, time, and place when bids are due;
- 5) Plans and specifications; and
- 6) Bid forms.

Unless otherwise stated in the bid package, the Plans, Contract Provisions and Specifications, Standard Modifications, Special Provisions, permits, forms and any other documents designated in the bid package are considered a part of the bid whether attached or not.

100.03 EXAMINATION OF CONTRACT REQUIREMENTS

Bidders are responsible for carefully examining the plans, specifications and all other documents incorporated in the contract to determine the requirements thereof before preparing bids.

Any explanation desired by bidders regarding the meaning or interpretation of drawings and specifications must be requested in writing and with sufficient time allowed for a reply to reach them before the submission of their bids. Oral explanations or instructions given before the award of the contract will not be binding. Any interpretation made will be in the form of an addendum to the

specifications or drawings and will be furnished to all bidders and its receipt by the bidder shall be acknowledged.

100.04 CONDITIONS AT SITE OF WORK

Bidders are responsible for visiting the site to ascertain pertinent local conditions such as the location, accessibility and character of the site, labor conditions, the character and extent of the existing work within or adjacent thereto, and any other work being performed thereon.

100.05 PREPARATION OF BIDS

A. A bidder shall prepare its bid using the Department provided bid forms or legible copies of the Department's forms.

The bid must be signed in ink by the person or persons authorized to sign the Contract for the bidder. If a bidder is a corporation, the bid must be signed by a corporate officer or agent with authority to bind the corporation. If a bidder is a partnership, a partner must sign. If the bidder is a joint venture, each principal member must sign. If a bidder is a sole proprietorship, the owner must sign. Each person signing the bid must initial any changes made to entries on the bid forms.

B. The bid schedule contains empty space(s) that call for the bidder to enter its proposed price for each corresponding item which may include unit price or lump sum items and alternative, optional or supplemental price schedules or a combination thereof which will result in a total bid amount for the proposed construction.

C. The bidder shall specify the price or prices bid in figures. On unit price contracts the bidder shall also show the products of the respective unit prices and quantities written in figures in the column provided for the purpose and the total amount of the proposal obtained by adding the amounts of the several items. All the figures shall be in ink or typed.

D. Neither conditional nor alternative bids will be considered unless called for.

100.06 BID SECURITY

All bids shall be accompanied by a bid security in the amount specified on the Invitation to Bid. The bid security shall be unconditionally payable to the State of Alaska and shall be in the form of an acceptable Bid Bond (Form 25D-14), or a certified check, a cashier's check or a money order made payable to the State of Alaska.

The surety of a Bid Bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. A legible power of attorney shall be included with each Bid Bond (Form 25D-14).

A Bid Bond must be accompanied by a legible Power of Attorney.

An individual surety will not be accepted as a bid security.

100.07 ADDENDA REQUIREMENTS

The Department will issue addenda if it determines, in its discretion, that clarifications or changes to the Contract documents or bid due date are needed. The Department may send addenda by any reasonable method such as fax, email, or may post the addenda on its website or online bidding service. Unless

picked up in person or included with the bid documents, addenda or notice that an addendum has been issued will be addressed to the individual or company to whom bidding documents were issued and sent to the email address or fax number on the plan holders' list. Notwithstanding the Department's efforts to distribute addenda, bidders are responsible for ensuring that they have received all addenda affecting the Invitation To Bid. Bidders must acknowledge all addenda on the Bid Forms, by fax, or by email before the deadline stated in the Invitation to Bid.

100.08 DELIVERY OF BIDS

Bids shall be submitted in a sealed envelope. When bids are submitted in a sealed envelope, the envelope shall clearly indicate its contents and the address of the Department's designated contracts office, as specified on the Invitation to Bid. Bids for other work may not be included in the envelope. Emailed or faxed bids will not be considered, unless specifically called for in the Invitation to Bid.

100.09 WITHDRAWAL OR REVISION OF BIDS

Bids may be withdrawn or revised in writing delivered by mail, fax, or email, provided that the Department's designated office receives the withdrawal or revision before the deadline stated in the Invitation To Bid. Withdrawal requests must be signed and submitted by the bidder's duly appointed representative who is legally authorized to bind the bidder. Revisions shall include both the modification of the unit bid price and the total modification of each item modified but shall not reveal the amount of the total original or revised bids.

100.010 PROTEST OF INVITATION TO BID

An interested party, as defined in AS 36.30.699, may protest an Invitation to Bid before the bid opening in accordance with AS 36.30.560 and AS 36.30.565. The interested party must submit a protest to the Contracting Officer.

100.011 RECEIPT AND OPENING OF BIDS

The Department will only consider bids, revisions, and withdrawals received before the deadline stated in the Invitation to Bid.

The Department will assemble, open, and publicly announce bids at the time and place indicated in the Invitation to Bid, or as soon thereafter as practicable. The Department is not responsible for prematurely opening or for failing to open bids that are improperly addressed or identified.

100.012 NONRESPONSIVE BIDS

1. A bid shall be rejected as nonresponsive if it:
 - a. Is not properly signed by an authorized representative of the bidder and in a legally binding manner;
 - b. Contains unauthorized additions, conditional or alternative bids, or other irregularities that make the bid incomplete, indefinite, or ambiguous;
 - c. Includes a reservation of the right to accept or reject any award, or to enter into a contract pursuant to an award,
 - d. Fails to include an acceptable bid guaranty with the bid;

- e. Is materially unbalanced; or
 - f. Fails to meet any other material requirement of the Invitation To Bid.
2. A bid may be rejected as nonresponsive, in the Department's discretion, if it:
- a. Is not typed or completed in ink;
 - b. Fails to include an acknowledgement of receipt of each addendum by assigned number and date of issue; or
 - c. Is missing a bid price for any pay item, except when alternate pay items are authorized.

100.013 BIDDERS INTERESTED IN MORE THAN ONE BID

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.

100.014 ELECTRONIC MAIL

Within its submitted bid, a bidder must include a current electronic mail (email) address of bidder's representative who possesses authority to receive, process, and respond to Department emails regarding the advertised project.

The Department may send notices and information to a bidder by using the furnished email address of the bidder's authorized representative.

A bidder shall notify the Department if the bidder requests the Department to send email notices or information to an address different from the email address initially provided in its bid forms. The bidder shall notify the Department of such change by sending a request in writing to the Contract's point of contact identified on the Invitation to Bid that is signed by a representative who is authorized and empowered to legally bind the bidder.

Delivery of an email sent by the Department is complete upon receipt in the addressee's email account. An email sent after 4:30 pm shall be deemed to have occurred at the opening of business on the next working day.

If needed, the Department may demonstrate proof of email delivery by affidavit or certification that includes the following:

- 1. The date and time that the Department sent the email message;
- 2. The email address from which the Department sent the message;
- 3. The name and email address to which the Department sent the message;
- 4. A statement that the Department sent the email message and that the person signing the affidavit or certification believes the transmission to have been complete and without error; and
- 5. An attached copy of the subject email.

100.015 CONSIDERATION OF BIDS

Until the Award, the Department may reject any or all bids, waive minor informalities or advertise for new bids without liability to any bidder if the Department, in its discretion, determines that to do so is in the best interests of the State.

A bidder may request withdrawal of a bid after opening and before the Award only in accordance with AS 36.30.160(b) and State procurement regulations. The bidder must submit the request to the Contracting Officer.

An interested party, as defined in AS 36.30.699, may protest a proposed Award of contract as per AS 36.30.560 and AS 36.30.565. The bidder must submit the protest to the Contracting Officer.

WHOLLY STATE-FUNDED PROJECTS. On wholly state-funded projects, determination of the low bidder will include bidder preferences as required under AS 36.30.321, according to subsections 1-3 below. Alaska Bidder Preference, Alaska Veteran Preference, and Alaska Product Preference are not applicable on projects with federal funding.

1. Alaska Bidder Preference: A bidder claiming this preference shall provide with their bid an Alaska Bidder Preference Certification, certifying they qualify as an Alaska bidder eligible for Alaska Bidder Preference according to AS 36.30.

If the bidder qualifies as an Alaska bidder, a five percent (5%) preference will be applied to the price of the bid. "Alaska bidder" means a person who:

- a. holds a current Alaska business license;
 - b. submits a bid for goods, services, or construction under the name as appearing on the person's current Alaska business license;
 - c. has maintained a place of business within the state staffed by the bidder or an employee of the bidder for a period of six months immediately preceding the date of the bid;
 - d. is incorporated or qualified to do business under the laws of the state, is a sole proprietorship and the proprietor is a resident of the state, is a limited liability company organized under AS 10.50 and all members are residents of the state, or is a partnership under former AS 32.05, AS 32.06, or AS 32.11 and all partners are residents of the state; and
 - e. If a joint venture, is composed entirely of ventures that qualify under (a) through (d), above.
2. Alaska Veteran Preference: A bidder claiming this preference shall provide an Alaska Veteran Preference Certification, certifying they qualify as an Alaska bidder eligible for Alaska Veteran preference according to AS 36.30.

If a bidder qualifies as an Alaska bidder and is a qualifying entity, an Alaska Veteran Preference of 5 percent shall be applied to the bid price. The preference may not exceed \$5,000 (AS 36.30.321). A "qualifying entity" means a:

- a. sole proprietorship owned by an Alaska veteran;
- b. partnership under AS 32.06 or AS 32.11 if a majority of the partners are Alaska veterans;
- c. limited liability company organized under AS 10.50 if a majority of the members are Alaska veterans; or

- d. corporation that is wholly owned by individuals, and a majority of the individuals are Alaska veterans.

A preference under this section is in addition to any other preference for which the bidder qualifies.

To qualify for this preference, the bidder must add value by the bidder itself actually performing, controlling, managing and supervising a significant part of the services provided or the bidder must have sold supplies of the general nature solicited to other state agencies, governments, or the general public.

An Alaska veteran is a resident of Alaska who:

- 1) served in the Armed forces of the United States, including a reserve unit of the United States armed forces; or the Alaska Territorial Guard, the Alaska Army National Guard, the Alaska Air National Guard, or the Alaska Naval Militia; and
 - 2) was separated from service under a condition that was not dishonorable.
3. Alaska Product Preference: A bidder claiming this preference shall complete and sign the Alaska Product Preference Worksheet, according to the worksheet instructions, and submit the completed worksheet with their bid.

Except for timber, lumber and manufactured lumber products used in the construction project under AS 36.30.322(b), an Alaska products preference will be given as required under AS 36.30.326 - 36.30.332 when the bidder designates the use of Alaska products.

If the successful bidder/contractor proposes to use an Alaska product and does not do so, a penalty will be assessed against the successful bidder/contractor according to AS 36.30.330(a).

Each Alaska product declared on the Alaska Product Preference Worksheet must have an "Approval" date on the Alaska Product Preference Program List, that is on or before the bid opening date for this contract, and that does not expire before the bid opening date for this contract.

100.016 RESPONSIBILITY OF BIDDERS

The Department may find a bidder is non-responsible for any one of the following reasons, but is not limited in its responsibility analysis to the following factors:

- 1) Evidence of bid rigging or collusion;
- 2) Fraud or dishonesty in the performance of previous contracts;
- 3) More than one bid for the same work from an individual, firm, or corporation under the same or different name;
- 4) Unsatisfactory performance on previous or current contracts;
- 5) Failure to pay, or satisfactorily settle, all bills due for labor and material on previous contracts;
- 6) Uncompleted work that, in the judgment of the Department, might hinder or prevent the bidder's prompt completion of additional work, if awarded;
- 7) Failure to reimburse the State for monies owed on any previous contracts;

- 8) Default under previous contracts;
- 9) Failure to submit evidence of registration and licensing;
- 10) Failure to comply with any qualification requirements of the Department;
- 11) Engaging in any activity that constitutes a cause for debarment or suspension under the State Procurement Code (AS 36.30) or submitting a bid during a period of debarment;
- 12) Failure to satisfy the responsibility standards set out in state regulations;
- 13) Lack of skill, ability, financial resources, or equipment required to perform the contract; or
- 14) Lack of legal capacity to contract.

Nothing contained in this section deprives the Department of its discretion in determining the lowest responsible bidder.

100.017 SUBCONTRACTOR LIST

The apparent low bidder shall submit a completed Subcontractor List, Form 25D-5, within five working days following receipt of written notification by the Department that it is the low bidder.

An apparent low bidder who fails to submit a completed Subcontractor List form within the time allowed will be declared non-responsible and may be required to forfeit the bid security. The Department will then consider the next lowest bidder for award of the Contract.

If a bidder fails to list a subcontractor, or lists more than one subcontractor for the same portion of work, and the value of that work is in excess of one-half of one percent of the total bid amount, the bidder agrees to perform that portion of work without a subcontractor and represents that it is qualified to perform that work.

A bidder who lists as a subcontractor another contractor who, in turn, sublets the majority of the work required under the Contract, violates this subsection.

A bidder or Contractor may, without penalty, replace a listed subcontractor who:

- 1) Fails to comply with licensing and registration requirements of AS 08.18;
- 2) Fails to obtain a valid Alaska business license;
- 3) Files for bankruptcy or becomes insolvent;
- 4) Fails to execute a subcontract for performance of the work for which the subcontractor was listed, and the bidder acted in good faith;
- 5) Fails to obtain bonding acceptable to the Department;
- 6) Fails to obtain insurance acceptable to the Department;
- 7) Fails to perform the subcontract work for which the subcontractor was listed;
- 8) Must be replaced to meet the bidder's required state or federal affirmative action requirements;

9) Refuses to agree or abide with the bidder's labor agreement; or

10) Is determined by the Department to be not responsible.

In addition to the circumstances described above, a Contractor may in writing request permission from the Department to add a new subcontractor or replace a listed subcontractor. The Department will approve the request if it determines in writing that allowing the addition or replacement is in the best interest of the State.

A bidder or Contractor shall submit a written request to add a new subcontractor or replace a listed subcontractor to the Contracting Officer a minimum of five working days before the date the new subcontractor is scheduled to begin work on the construction site. The request must state the basis for the request and include supporting documentation acceptable to the Contracting Officer.

If a bidder violates this subsection, the Contracting Officer may:

- 1) Cancel the Contract after Award without any damages accruing to the Department; or
- 2) After notice and a hearing, assess a penalty on the bidder in an amount not exceeding 10 percent of the value of the subcontract at issue.

100.018 AWARD OF CONTRACT

The Department will award the Contract to the lowest responsible and responsive bidder unless it rejects all bids. The Department will notify all bidders in writing via email, fax, or U.S. Mail of its intent to award.

In order to establish a clear and definitive basis of award for contracts with additive alternates, the State has established a budgeted amount from which the order of bidders will be determined. The amount will be disclosed when timely received bids are announced. The low bid will be determined by considering the basic bid and additive alternate(s) in the order listed on the Bid Schedule up to a total not to exceed the budgeted amount. The State reserves the right to reject all bids. The State also reserves the right to award the contract above or below the budgeted amount to the low bidder based on any combination of alternate(s) or no alternate(s), providing that the low bidder remains unchanged.

The Department will notify the successful bidder in writing of its intent to award the Contract and request that certain required documents, including the Contract Form, bonds, and insurance be submitted within the time specified. The successful bidder's refusal to sign the Contract and provide the requested documents within the time specified may result in cancellation of the notice of intent to award and forfeiture of the bid security.

If an award is made, it will be made as soon as practicable and usually within 40 days after bid opening. Award may be delayed due to bid irregularities or a bid protest, or if the award date is extended by mutual consent. Bids shall be valid for 120 days after bid opening, and may be extended by mutual consent.

100.019 RETURN OF BID SECURITY

The Department will return bid securities, other than bid bonds:

- 1) To all except the two lowest responsive and responsible bidders, as soon as practicable after the opening of bids; and

- 2) To the two lowest responsive and responsible bidders immediately after Contract award.

100.020 PERFORMANCE AND PAYMENT BONDS

The successful bidder shall furnish all required Performance and Payment Bonds on forms provided by the Department for the sums specified in the Contract. If no sum is specified, the successful bidder shall comply with AS 36.25.010. The Surety on each bond may be any corporation or partnership authorized to do business in the state as an insurer under AS 21.09 or two individual sureties approved by the Contracting Officer.

If individual sureties are used, two individual sureties must each provide the Department with security assets located in Alaska equal to the penal amount of either the performance bond or the payment bond. Any costs incurred by the Contractor and the individual Surety are subsidiary and shall be borne by the Contractor or the individual Surety. In no event will the Department be liable for these costs.

Individual sureties shall provide security by one, or a combination, of the following methods:

- 1) Escrow Account, with a federally insured financial institution, in the name of the Department. Acceptable securities include, but are not limited to, cash, treasury notes, bearer instruments having a specific value, or money market certificates.
- 2) Irrevocable letters of credit, from a financial institution approved by the Contracting Officer, with the Department named as beneficiary.
- 3) Cashier's or certified check made payable to the State of Alaska issued by financial institutions approved by the Contracting Officer.

These bonds and security assets, as applicable, shall remain in effect for 12 months after the date of final payment or, if longer, until all obligations and liens under this Contract are satisfied, including, but not limited to, obligations under General Conditions, Subsection 12.7.

The Department may, in its discretion, notify the bonding company or Surety of any potential default or liability.

The Contractor shall substitute, within five working days, another bond or surety acceptable to the Department if an individual Surety or the Surety on any bond furnished in connection with the Contract:

- 1) Becomes insolvent or is declared bankrupt;
- 2) Loses its right to do business in any state affecting the work;
- 3) Ceases to meet Contract requirements;
- 4) Fails to furnish reports of financial condition upon request; or
- 5) Otherwise becomes unacceptable to the Department.

When approved by the Contracting Officer, the Contractor may replace:

- 1) An individual surety with a corporate surety; or
- 2) Posted collateral with substitute collateral.

Failure to maintain the specified bonds or to provide substitute bonds when required under this section may be grounds for withholding contract payments until substitute bonding is obtained, and may, in the Department's discretion, be grounds for declaring the Contractor in default.



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

REQUIRED DOCUMENTS

State Funded Contracts

YKCC Recreational Area Renovations
Yukon Kuskokwim Correctional Center (YKCC), Bethel, Alaska
Project# 230001184-3

REQUIRED FOR BID. Bids will not be considered responsive if the following documents are not filled out and submitted at the time of bid opening:

1. **Bid Proposal (Form 25D-9)**
2. **Bid Schedule**
3. **Bid Modification (Form 25D-16)** (Any bid revisions must be submitted by the bidder prior to bid opening on this form.)
4. **Bid Bond (Form 25D-14)**
5. **Alaska Bidder Preference Certification (Form 25D-19)** (If applicable)
6. **Alaska Product Preference (Form SPC-007)** (If applicable)
7. **Bids received that do not meet these requirements shall be considered non-responsive.**

REQUIRED AFTER NOTICE OF APPARENT LOW BIDDER. The apparent low bidder must complete and submit the following document within **5 working days** after receipt of written notification:

1. **Subcontractor List (Form 25D-5)** (Sub-contractors utilized in this project must have valid/current Alaska Business license and contractor's certificate of registration at the time of bid opening)

REQUIRED FOR AWARD. In order to be awarded the contract, the successful bidder must completely fill out and submit the following documents within the time specified in the intent to award letter:

1. **Construction Contract (Form 25D-10A)**
2. **Payment Bond (Form 25D-12)**
3. **Performance Bond (Form 25D-13)**
4. **Contractor's Questionnaire (Form 25D-8)**
5. **Certificate of Insurance** (from carrier and as cited on Appendix B1)
6. **Sub-Contractors List (Form 25D-5)**
7. **Sub-Contractor(s) Certifications**
8. **Sub-Contractor(s) Certificate of Insurance**
9. **Submittals** (if applicable)
10. **Alaska Business License**
11. **Contractor's License**



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

BID FORM

for

YKCC Recreational Area Renovations
Yukon Kuskokwim Correctional Center (YKCC), Bethel, Alaska
Project# 230001184-3

by

Company Name

Company Address (Street or PO Box, City, State, Zip)

Company Alaska Business License No:

Company Contractor's Registration No:

**TO THE CONTRACTING OFFICER,
DEPARTMENT OF CORRECTIONS:**

In compliance with your Invitation to Bid dated **August 27, 2024** the Undersigned proposes to furnish and deliver all the materials and do all the work and labor required in the construction of the above-referenced Project, located at or near **Bethel, Alaska**, according to the plans and specifications and for the amount and prices named herein as indicated on the Bid Schedule consisting of one sheet, which is made a part of this Bid.

The Undersigned declares that he has carefully examined the contract requirements and that he has made a personal examination of the site of the work; that he understands that the quantities, where such are specified in the Bid Schedule or on the plans for this project, are approximate only and subject to increase or decrease, and that he is willing to perform increased or decreased quantities of work at unit prices bid under the conditions set forth in the Contract Documents.

The Undersigned hereby agrees to execute the said contract and bonds within fifteen calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of this bid and it is hereby mutually understood and agreed that in case the Undersigned does not, The accompanying bid guarantee shall be forfeited to the State of Alaska, Department of Corrections as Liquidated damages and the said Contracting officer may proceed to award the contract to others.

The Undersigned agrees to commence the work within 10 calendar days after the effective date of the Notice to Proceed and to complete all work by **December 30, 2026**.

The Undersigned proposes to furnish Payment Bond in the amount of **100%** (of the contract) and Performance Bond in the amount of **100%** (of the contract), as surety conditioned for the full, complete, and faithful performance of this contract.

The Undersigned acknowledges receipt of the following addenda to the drawings and/or specifications (give number and date of each).

Addenda Number	Date Issued

Addenda Number	Date Issued

Addenda Number	Date Issued

NON-COLLUSION DECLARATION

The Undersigned declares, under penalty of perjury under the laws of the United States, that neither he nor the firm, association, or corporation of which he is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

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

Signature of Authorized Company Representative

Typed Name and Title

() _____
Phone Number

() _____
Fax Number

Email:

Re: YKCC Recreational Area Renovations
 Project# 230001184-3

INSTRUCTIONS FOR ALASKA PRODUCTS PREFERENCE WORKSHEET

Special Notice: All procurements, except those funded from Federal sources, shall contain Contract provisions for the preference of Alaska products. To be considered for the Alaska Product Preference, each product listed by the Bidder on this worksheet must have current certification from the Alaska Products Preference Program at the time of Bid Opening or the proposal due date. A product with expired certification at the bid opening or proposal due date will not be considered eligible. Products that are not specified for use on the project will not be considered eligible.

The Alaska Product Preference Program List of certified products is available online at:

<https://www.commerce.alaska.gov/web/dcra/AlaskaProductPreferenceProgram.aspx> or may be obtained by contacting Dept. of Commerce & Economic Development Alaska Division of Community and Regional Affairs, Alaska Products Preference Program, 550 W. 7th Ave., Suite 1650, Anchorage AK 99501-3510; Phone: (907) 269- 4501 Fax: (907) 269-4563, E-mail: madeinalaska@alaska.gov

BIDDERS INSTRUCTIONS:

A. General. The contracting Agency may request documentation to support entries made on this form. False presentations may be subject to AS 36.30.687. All Bidder's entries must conform to the requirements covering bid preparations in general. Discrepancies in price extensions shall be resolved by multiplying the declared total value times the preference percentage and adjusting any resulting computation(s) accordingly.

B. Form Completion – BASIC BIDS.

- (1) Enter project number and name, the words "Basic Bid" and the CONTRACTOR'S name in the heading of each page as provided.
- (2) The Bidder shall compare those candidate products appearing on the preference listing (see Special Notice comments above) against the requirements of the technical specifications appearing in the contract documents. If the Bidder determines that a candidate product can suitably meet the contract requirements, then that product may be included in the worksheet as follows.
- (3) For each suitable product submitted under the "Basic Bid" enter:
 - The product name, generic description and its corresponding technical specification section number under the heading "PRODUCT",
 - The company name of the Alaska producer under the heading "Manufacturer", and
 - The product class (I, II, or III) and preference percentage (3, 5, or 7% respectively) under the "CLASS/% heading.
- (4) For each product appearing on the list and to be utilized by the CONTRACTOR enter:
 - Under the heading "TOTAL DECLARED VALUE" the manufacturer's quoted price of the product, (caution: this value is to be the manufacturer's quoted price at the place of origin and shall not include costs for freight, handling or miscellaneous charges of incorporating the product into the Work,) and
 - The resulting preference – i.e. the preference percentage times the total declared value amount – under the heading "REDUCTION AMOUNT".
- (5) Continue for all "suitable" basic bid products. If the listing exceeds one page enter the words "Page # __ SUB" in front of the word "TOTAL" and on the first line of the following pages enter "SUBTOTAL OF REDUCTION AMOUNT FROM PREVIOUS PAGE".
- (6) On the final page of the listing enter "BASIC BID PREFERENCE GRAND" immediately before the word "TOTAL".
- (7) Total the entries in the "REDUCTION AMOUNT" column for each page by commencing at the first entry for that page. If a continuation page exists, ensure that the subtotal from the previous page is computed into the running total. Number pages as appropriate.
- (8) Compute a Grand Total for the Basic Bid Preference. Enter the amount on the final page of the worksheet. (Note: When solicitations require written bids this amount should also be entered on line "C" of the Basic Bid Schedule.) Submit worksheet(s) with the Bid Schedule.

C. Form Completion – ALTERNATE BIDS.

- (1) Enter project number and name, the words "ALTERNATE BID # __", and CONTRACTOR'S name in the heading of each page as provided.
- (2) On the first entry line enter "ADDITIONAL ALASKA PRODUCTS FOR ALTERNATE BID # __", and repeat procedures 2 through 5 under part B these Bidder's instructions except that references to "Basic Bid" shall be replaced with the words "Alternate Bid # __".
- (3) Following the listing of all additional Alaska products enter the words "ADDITIONAL PRODUCTS PREFERENCE FOR ALTERNATE BID # __ - SUBTOTAL" and enter a subtotal amount for all additional products as listed. Subtotal amount to be determined by adding all additional product entries in the "REDUCTION AMOUNT" column.
- (4) Skip three lines and enter "LESS THE FOLLOWING NON-APPLICABLE ALASKA PRODUCTS:
- (5) Beginning on the next line, enter the product name and manufacturer of each Alaska Product appearing on the "Basic Bid" listing which would be deleted or reduced from the Project should the "Alternate Bid" be selected. Details of entry need only be sufficient to clearly reference the subject product. (i.e. "Pre-hung doors by Alaska Door Co., Anchorage.") Products being reduced shall specify the amount of the reduction. Should no products require deletion enter "None". When a product is listed as a "NON-APPLICABLE ALASKA PRODUCT" for this alternate bid and if under the basic bid the Bidder received a preference on his basic bid as a result of that product, then the applicable entries under the headings "TOTAL DECLARED VALUE" and "REDUCTION AMOUNT" (for each product and from the basic bid listing) shall also be entered into the corresponding headings of this form. Where only a portion of the products has been deleted, the entry (which will differ from those on the basic bid listing) may be "pro-rated" or as otherwise substantiated.
- (6) Following the listing of all non-applicable Alaska products enter the words "NON-APPLICABLE PRODUCTS PREFERENCE FROM BASIC BID __ SUBTOTAL" and enter a subtotal amount for all non-applicable products listed. Subtotal amount to be determined by adding all non-applicable entries in the "REDUCTION AMOUNT" column.
- (7) At the bottom of the final page enter the words "ALTERNATE BID # __ PREFERENCE GRAND" immediately before the word "TOTAL".
- (8) Compute a Grand Total for the Alternate Bid Preference (for Alternate # __) by subtracting the non-applicable product preference subtotal from the additional product preference subtotal. Enter on the final page. (Note: When solicitations require written bids this amount should also be entered on line "C" of the Alternate Bid Schedule.) Submit separate worksheet(s) with each Alternate Bid



**STATE OF ALASKA
DEPARTMENT OF CORRECTIONS**

BID SCHEDULE

Project: YKCC Recreation Area Renovations
Location: Yukon Kuskokwim Correctional Center (YKCC)
1000 Chief Eddie Hoffman Hwy, Bethel, Alaska 99559
DOC Project No.: 230001184-3

ITB Dated: August 27, 2024

Company Name: _____

Bidders Please Note: Before preparing this bid schedule, read carefully, "Information to Bidders", "Supplementary Information to Bidders", and the following:
 The Bidder shall insert a fixed price in figures opposite each pay item that appears in the bid schedule. No price is to be entered or tendered for any item not appearing in the bid schedule. Write out the dollar amount in the space below the figure.
 Conditioned or qualified bids will be considered non-responsive.

NOTICE: In order to establish a clear and definitive basis of award, the State has established a budgeted project amount from which the order of bidders will be determined. The amount will be announced just prior to opening bids. The low bid will be determined by considering the total bid as adjusted for Alaska Bidders Preference (col. b), Alaska Veteran's Preference (col. c) and Alaska Products Preference (col. d) in the order listed up to a total not to exceed budgeted Award amount less the low bidder's preferences. The state reserves the right to reject all bids. The state also reserves the right to award the contract above or below the budgeted amount to the low bidder. The final contract award will be for the unadjusted amount(s).

Description	(a) Bid Amount (figures)	(b) Alaska Bidder Preference (figures), 5% of Column (a)	(c) Veterans Preference (5% of (col a) not to exceed \$5,000	(d) Alaska Products Preference (figures)	(e) Adjusted Bid Amount (figures): (a) - (b) - (c) - (d)
All work required as described in Section 01000, 1.03. A and the Contract Documents Section 01000 A. Contractor must show and submit breakdown of the total bid amount					
TOTAL PROJECT BID AMOUNT					

Contractor's Signature

Date



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

ALASKA BIDDER PREFERENCE CERTIFICATION

In response to the advertised procurement for:

Project Name and Number: __YKCC Recreational Area Renovations, Project# 23001184-3
Bidder/Proposer (company name): _____

Operation of Alaska Bidder Preference

Procurement preferences under the Alaska Procurement Code are benefits that the State grants only to qualified bidders. Under AS 36.30.990(2), if a bidder is an eligible "Alaska Bidder", the Department will apply a five percent preference to the price of the bidder's proposal.

Instructions regarding Alaska Bidder Preference

A bidder that claims the Alaska Bidder Preference must review and then certify that each statement appearing under the heading "Alaska Bidder Certification" is true. The individual that signs the certification shall include his/her printed name and position within bidder's organization, *e.g.*, sole proprietor, partner, etc. If a bidder fails to submit a signed certification, the Department will not apply the claimed preference.

Alaska Bidder Certification

The bidding entity for which I am the duly authorized representative:

- (A) Holds a current Alaska business license;
- (B) Is submitting a bid or proposal for goods, services, or construction under the name appearing on the bidder's current Alaska business license;
- (C) Has maintained a place of business in the State staffed by the bidder or an employee of the bidder for a period of six months immediately preceding the date of the proposal;
- (D) Is incorporated or qualified to do business under the laws of the State, is a sole proprietorship and the proprietor is a resident of the State, is a limited liability company organized under AS 10.50 and all members are residents of the State, or is a partnership under former AS 32.05, AS 32.06, or AS 32.11 and all partners are residents of the State; and
- (E) If a joint venture, is composed entirely of ventures that qualify under the four preceding paragraphs of this Alaska Bidder Certification.

By applying my signature below, I certify under penalty of perjury that I am the duly appointed representative of this bidder, which has authorized and empowered me to legally bind it concerning its proposal, and that the foregoing statements are true and correct.

By (signature)

Date

Printed name

Alaska Business License Number

Title:



**STATE OF ALASKA
DEPARTMENT OF CORRECTIONS**

BID BOND

for
YKCC Recreational Area Renovations
Yukon Kuskokwim Correctional Center (YKCC), Bethel, Alaska
Project# 230001184-3

Project Name and Number

DATE BOND EXECUTED: _____

PRINCIPAL (Legal name and business address):

TYPE OF ORGANIZATION:

	<input type="checkbox"/> Individual <input type="checkbox"/> Partnership <input type="checkbox"/> Joint Venture <input type="checkbox"/> Corporation
STATE OF INCORPORATION:	

SURETY(IES) (Name and business address):

A.	B.	C.
PENAL SUM OF BOND:		DATE OF BID:

We, the PRINCIPAL and SURETY above named, are held and firmly bound to the State (State of Alaska), in the penal sum of the amount stated above, for the payment of which sum will be made, we bind ourselves and our legal representatives and successors, jointly and severally, by this instrument.

THE CONDITION OF THE FOREGOING OBLIGATION is that the Principal has submitted the accompanying bid in writing, date as shown above, on the above-referenced Project in accordance with contract documents filed in the office of the Contracting Officer, and under the Invitation for Bids therefore, and is required to furnish a bond in the amount stated above.

If the Principal's bid is accepted and he is offered the proposed contract for award, and if the Principal fails to enter into the contract, then the obligation to the State created by this bond shall be in full force and effect.

If the Principal enters into the contract, then the foregoing obligation is null and void.

PRINCIPAL

Signature(s)	1.	2.	3.
Name(s) & Title(s) (Typed)	1.	2.	3.

See Instructions on Reverse

Corporate Seal

CORPORATE SURETY(IES)

Surety A	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety B	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety C	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Re: Project# 230001184-3, YKCC Recreational Area Renovations

INSTRUCTIONS

1. This form shall be used whenever a bid bond is submitted.
2. Insert the full legal name and business address of the Principal in the space designated. If the Principal is a partnership or joint venture, the names of all principal parties must be included (e.g., "Smith Construction, Inc. and Jones Contracting, Inc. DBA Smith/Jones Builders, a joint venture"). If the Principal is a corporation, the name of the state in which incorporated shall be inserted in the space provided.
3. Insert the full legal name and business address of the Surety in the space designated. The Surety on the bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. Individual sureties will not be accepted.
4. The penal amount of the bond may be shown either as an amount (in words and figures) or as a percent of the contract bid price (a not-to-exceed amount may be included).
5. The scheduled bid opening date shall be entered in the space marked Date of Bid.
6. The bond shall be executed by authorized representatives of the Principal and Surety. Corporations executing the bond shall also affix their corporate seal.
7. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
8. The states of incorporation and the limits of liability of each surety shall be indicated in the spaces provided.
9. The date that bond is executed must not be later than the bid opening date.

Re: Project# 230001184-3, YKCC Recreational Area Renovations



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

CONSTRUCTION CONTRACT

YKCC Recreational Area Renovations
Yukon Kuskokwim Correctional Center, Bethel, Alaska
Project Numbers: 230001184-3

This CONTRACT, between the STATE OF ALASKA, DEPARTMENT OF CORRECTIONS, herein called the Department, acting by and through its Contracting Officer, and

Company Name

Company Address (Street or PO Box, City, State, Zip)

a/an Individual Partnership Joint Venture Sole Proprietorship Corporation incorporated under the laws of the State of Alaska, its successors and assigns, herein called the Contractor, is effective the date of the signature of the Contracting Officer on this document.

WITNESSETH: That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Department, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor required in the construction of the above-referenced project at the prices bid by the Contractor for the respective estimated quantities aggregating **not to exceed** the sum of \$ _____ and such other items as are mentioned in the original Bid, which Bid and prices named, together with the Contract Documents are made a part of this Contract and accepted as such.

It is distinctly understood and agreed that no claim for additional work or materials, done or furnished by the Contractor and not specifically herein provided for, will be allowed by the Department, nor shall the Contractor do any work or furnish any material not covered by this Contract, unless such work is ordered in writing by the Department. In no event shall the Department be liable for any materials furnished or used, or for any work or labor done, unless the materials, work, or labor are required by the Contract or on written order furnished by the Department. Any such work or materials which may be done or furnished by the Contractor without written order first being given shall be at the Contractor's own risk, cost, and expense and the Contractor hereby covenants and agrees to make no claim for compensation for work or materials done or furnished without such written order.

The Contractor further covenants and agrees that all materials shall be furnished and delivered, and all labor shall be done and performed, in every respect, to the satisfaction of the Department, on or before: **September 1, 2026 for Substantial Completion Date and December 30, 2026 for the Final Completion Date**. It is expressly understood and agreed that in case of the failure on the part of the Contractor, for any reason, except with the written consent of the Department, to complete the furnishing and delivery of materials and the doing and performance of the work before the aforesaid date, the Department shall have the right to deduct from any money due or which may become due the Contractor, or if no money shall be due, the Department shall have the right to recover the following amounts:

LIQUIDATED DAMAGES:

- **Eight Hundred Fifty-Three Dollars & Twenty Cents (853.20)** per day for each calendar day elapsing between the time stipulated for the sub-completion date and in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.
- **One Hundred Fifteen Dollars & Zero Cents (115.00)** per day for each calendar day elapsing between the time stipulated for the final completion date and in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

IN WITNESS WHEREOF, the parties hereto have executed this Contract and hereby agree to its terms and conditions.

CONTRACTOR

Company Name

Signature of Authorized Company Representative

Typed Name and Title

Date

(Corporate Seal)

**STATE OF ALASKA
DEPARTMENT OF CORRECTIONS**

Signature of Contracting Officer

Michael Lim

Typed Name

Date

Re: Project # 230001184-3, YKCC Recreation Area Renovations



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

PAYMENT BOND

Bond No. _____

For

YKCC Recreation Area Renovations
Yukon Kuskokwim Correctional Center (YKCC), Bethel, Alaska
Project# 230001184-3

Project Name and Number

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof,
well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns,
jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____
A.D., 20____, for construction of the above-referenced project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall comply with all requirements
of law and pay, as they become due, all just claims for labor performed and materials and supplies furnished upon or for the work
under said contract, whether said labor be performed and said materials and supplies be furnished under the original contract, any
subcontract, or any and all duly authorized modifications thereto, then these presents shall become null and void; otherwise they
shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____,
_____ this _____ day of _____ A.D., 20____.

Principal: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

Surety: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Department of Corrections Authorized Representative _____

Date _____

INSTRUCTIONS

1. This form, for the protection of persons supplying labor and materials, shall be used whenever a payment bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

PERFORMANCE BOND

Bond No. _____

For

YKCC Recreation Area Renovations
Yukon Kuskokwim Correctional Center (YKCC), Bethel, Alaska
Project# 230001184-3
Project Name and Number

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____ A.D., 20____, for construction of the above-named project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall well and truly perform and complete all obligations and work under said contract and if the Principal shall reimburse upon demand of the Department of Corrections any sums paid him which exceed the final payment determined to be due upon completion of the project, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, this _____ day of _____ A.D., 20____.

Principal: _____
Address: _____
By: _____
Contact Name: _____
Phone: () _____

Surety: _____
Address: _____
By: _____
Contact Name: _____
Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Department of Corrections Authorized Representative Date

See Instructions on Reverse

INSTRUCTIONS

1. This form shall be used whenever a performance bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

2. What percent of the total value of this contract do you intend to subcontract? _____ %

3. Do you propose to purchase any equipment for use on this project?
 No Yes If YES, describe type, quantity, and approximate cost:

4. Do you propose to rent any equipment for this work?
 No Yes If YES, describe type and quantity:

5. Is your bid based on firm offers for all materials necessary for this project?
 Yes No If NO, please explain:

C. EXPERIENCE

1. Have you had previous construction contracts or subcontracts with the State of Alaska?
 Yes No

Describe the most recent or current contract, its completion date, and scope of work:

2. List, as an attachment to this questionnaire, other construction projects you have completed, the dates of completion, scope of work, and total contract amount for each project completed in the past 12 months.

I hereby certify that the above statements are true and complete.

Name of Contractor Business

Name and Title of Person Signing (authorized)

Signature

Date

**STATE OF ALASKA
DEPARTMENT OF CORRECTIONS
DOCUMENT 00700 -ISSUED DECEMBER 2011**

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT FOR BUILDINGS

ARTICLE 1 - DEFINITIONS

ARTICLE 2- AUTHORITIES AND LIMITATIONS

- 2.1 Authorities and Limitations
- 2.2 Evaluations by Contracting Officer
- 2.3 Means and Methods
- 2.4 Visits to Site

ARTICLE 3- CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

- 3.1 Incomplete Contract Documents
- 3.2 Copies of Contract Documents
- 3.3 Scope of Work
- 3.4 Intent of Contract Documents
- 3.5 Discrepancy in Contract Documents
- 3.6 Clarifications and Interpretations
- 3.7 Reuse of Documents

ARTICLE 4 - LANDS AND PHYSICAL CONDITIONS

- 4.1 Availability of Lands
- 4.2 Visit to Site/Place of Business
- 4.3 Explorations and Reports
- 4.4 Utilities
- 4.5 Damaged Utilities
- 4.6 Utilities Not Shown or Indicated
- 4.7 Survey Control

ARTICLE 5- BONDS AND INSURANCE

- 5.1 Delivery of Bonds
- 5.2 Bonds
- 5.3 Replacement of Bond and Surety
- 5.4 Insurance Requirements
- 5.5 Indemnification

ARTICLE 6- CONTRACTOR'S RESPONSIBILITIES

- 6.1 Supervision of Work
- 6.2 Superintendence by CONTRACTOR
- 6.3 Character of Workers
- 6.4 CONTRACTOR to Furnish
- 6.5 Materials and Equipment
- 6.6 Anticipated Schedules
- 6.7 Finalizing Schedules
- 6.8 Adjusting Schedules
- 6.9 Substitutes or "Or-Equal" Items
- 6.10 Substitute Means and Methods
- 6.11 Evaluation of Substitution
- 6.12 Dividing the Work
- 6.13 Subcontractors
- 6.14 Use of Premises
- 6.15 Structural Loading
- 6.16 Record Documents

- 6.17 Safety and Protection
- 6.18 Safety Representative
- 6.19 Emergencies
- 6.20 Shop Drawings and Samples
- 6.21 Shop Drawing and Sample Review
- 6.22 Maintenance During Construction
- 6.23 Continuing the Work
- 6.24 Consent to Assignment
- 6.25 Use of Explosives
- 6.26 Contractor's Records
- 6.27 Load Restrictions

ARTICLE 7- LAWS AND REGULATIONS

- 7.1 Laws to be Observed
- 7.2 Permits, Licenses, and Taxes
- 7.3 Patented Devices, Materials and Processes
- 7.4 Compliance of Specifications and Drawings
- 7.5 Accident Prevention
- 7.6 Sanitary Provisions
- 7.7 Business Registration
- 7.8 Professional Registration and Certification
- 7.9 Local Building Codes
- 7.10 Air Quality Control
- 7.11 Archaeological or Paleontological Discoveries
- 7.12 Applicable Alaska Preferences
- 7.13 Wages and Hours of Labor
- 7.14 Overtime Work Hours and Compensation

ARTICLE 8- OTHER WORK

- 8.1 Related Work at Site
- 8.2 Access, Cutting, and Patching
- 8.3 Defective Work by Others
- 8.4 Coordination

ARTICLE 9 - CHANGES

- 9.1 Department's Right to Change
- 9.2 Authorization of Changes within the General Scope
- 9.3 Directive
- 9.4 Change Order
- 9.5 Shop Drawing Variations
- 9.6 Changes Outside the General Scope; Supplemental Agreement
- 9.7 Unauthorized Work
- 9.8 Notification of Surety
- 9.9 Differing Site Conditions
- 9.10 Interim Work Authorization

ARTICLE 10- CONTRACT PRICE; COMPUTATIONS AND CHANGE

- 10.1 Contract Price
- 10.2 Claim for Price Change
- 10.3 Change Order Price Determination
- 10.4 Cost of the Work
- 10.5 Excluded Costs
- 10.6 CONTRACTOR's Fee
- 10.7 Cost Breakdown
- 10.8 Cash Allowances

- 10.9 Unit Price Work
- 10.10 Determinations for Unit Prices

ARTICLE 11- CONTRACT TIME, COMPUTATION AND CHANGE

- 11.1 Commencement of Contract Time; Notice to Proceed
- 11.2 Starting the Work
- 11.3 Computation of Contract Time
- 11.4 Time Change
- 11.5 Extension Due to Delays
- 11.6 Essence of Contract
- 11.7 Reasonable Completion Time
- 11.8 Delay Damages

ARTICLE 12 - QUALITY ASSURANCE

- 12.1 Warranty and Guaranty
- 12.2 Access to Work
- 12.3 Tests and Inspections
- 12.4 Uncovering Work
- 12.5 DEPARTMENT May Stop the Work
- 12.6 Correction or Removal of Defective Work
- 12.7 One Year Correction Period
- 12.8 Acceptance of Defective Work
- 12.9 DEPARTMENT may Correct Defective Work

ARTICLE 13- PAYMENTS TO CONTRACTOR AND COMPLETION

- 13.1 Schedule of Values
- 13.2 Preliminary Payments
- 13.3 Application for Progress Payment
- 13.4 Review of Applications for Progress Payments
- 13.5 Stored Materials and Equipment
- 13.6 CONTRACTOR's Warranty of Title
- 13.7 Withholding of Payments
- 13.8 Retainage
- 13.9 Request for Release of funds
- 13.10 Substantial Completion
- 13.11 Access Following Substantial Completion
- 13.12 Final Inspection
- 13.13 Final Completion and Application for Payment
- 13.14 Final Payment
- 13.15 Final Acceptance
- 13.16 CONTRACTOR's Continuing Obligation
- 13.17 Waiver of Claims by CONTRACTOR
- 13.18 No Waiver of Legal Rights

ARTICLE 14- SUSPENSION OF WORK AND TERMINATION

- 14.1 DEPARTMENT May Suspend Work
- 14.2 Default of Contract
- 14.3 Rights or Remedies
- 14.4 Convenience Termination

ARTICLE 15- CLAIMS AND DISPUTES

- 15.1 Notification
- 15.2 Presenting the Claim
- 15.3 Claim Validity, Additional Information & DEPARTMENT's Action
- 15.4 Contracting Officer's Decision
- 15.5 Fraud and Misrepresentation in Making Claims

ACKNOWLEDGMENT

"The State of Alaska, General Conditions of the Construction Contract for Buildings" is based on the "Standard General Conditions of the Construction Contract" as published by the National Society of Professional Engineers (document number 1910-8, 1983 edition) on behalf of the Engineers Joint Construction Documents Committee. Portions of the NSPE General Conditions are reprinted herein by the express permission of NSPE. Modifications to the NSPE text are made to provide for State laws, regulations, and established procedures.

The granting of permission by NSPE to allow the State of Alaska to preprint portions of the NSPE document 1910-8, 1983 edition does not constitute approval of the State of Alaska General Conditions of the Construction Contract for Buildings.

ARTICLE 1 -DEFINITIONS

Wherever used in the Contract Documents the following terms, or pronouns in place of them, are used, the intent and meaning, unless a different intent or meaning is clearly indicated, shall be interpreted as set forth below.

The titles and headings of the articles, sections, and subsections herein are intended for convenience of reference.

Terms not defined below shall have their ordinary accepted meanings within the context which they are used. Words which have a well-known technical or trade meaning when used to describe work, materials or equipment shall be interpreted in accordance with such meaning. Words defined in Article 1 are to be interpreted as defined.

Addenda- All clarifications, corrections, or changes issued graphically or in writing by the DEPARTMENT after the Advertisement but prior to the opening of Proposals.

Advertisement- The public announcement, as required by law, inviting bids for Work to be performed or materials to be furnished.

Application for Payment - The form provided by the DEPARTMENT which is to be used by the CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Approved or Approval - 'Approved' or 'Approval' as used in this contract document shall mean that the Department has received a document, form or submittal from the contractor and that the Department has taken "No exceptions" to the item submitted. Unless the context clearly indicates otherwise, approved or approval shall not mean that the Department approves of the methods or means, or that the item or form submitted meets the requirements of the contract or constitutes acceptance of the Contractor's work. Where approved or approval means acceptance, then such approval must be set forth in writing and signed by the contracting officer or his designee.

Architect - Where used in the contract documents, "ARCHITECT" shall mean the DEPARTMENT'S ENGINEER.

Architect/Engineer - Where used in the contract documents, "ARCHITECT/ENGINEER" shall mean the DEPARTMENT'S ENGINEER.

A.S. - Initials which stand for Alaska Statute.

Award - The acceptance, by the DEPARTMENT, of the successful bid.

Bid Bond - A type of Proposal Guaranty.

Bidder - Any individual, firm, corporation or any acceptable combination thereof, or joint venture submitting a bid for the advertised Work.

Calendar Day - Every day shown on the calendar, beginning and ending at midnight.

Change Order - A written order by the DEPARTMENT directing changes to the Contract Documents, within their general scope.

Consultant - The person, firm, or corporation retained directly by the DEPARTMENT to prepare Contract Documents, perform construction administration services, or other Project related services.

Contingent Sum Work Item - When the bid schedule contains a Contingent Sum Work Item; the Work covered shall be performed only upon the written Directive of the Project Manager. Payment shall be made as provided in the Directive.

Contract - The written agreement between the DEPARTMENT and the CONTRACTOR setting forth the obligations of the parties and covering the Work to be performed, all as required by the Contract Documents.

Contract Documents -The Contract form, Addenda, the bidding requirements and CONTRACTOR's bid (including all appropriate bid tender forms), the bonds, the Conditions of the Contract and all other Contract requirements, the Specifications, and the Drawings furnished by the DEPARTMENT to the CONTRACTOR, together with all Change Orders and documents approved by the Contracting Officer, for inclusion, modifications and supplements issued on or after the Effective Date of the Contract.

Contracting Officer -The person authorized by the Commissioner to enter into and administer the Contract on behalf of the DEPARTMENT. He has authority to make findings, determinations and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract. The Contracting Officer is identified on the construction Contract.

CONTRACTOR - The individual, firm, corporation or any acceptable combination thereof, contracting with the DEPARTMENT for performance of the Work.

Contract Price - The total moneys payable by the DEPARTMENT to the CONTRACTOR under the terms of the Contract Documents.

Contract Time - The number of Calendar Days following issuance of Notice-to-Proceed in which the project shall be rendered Substantially Complete, or if specified as a calendar date, the Substantial Completion date specified in the Contract Documents

Controlling Item - Any feature of the Work on the critical path of a network schedule.

Defective - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents.

DEPARTMENT - The Alaska Department of Corrections. References to "Owner", "State", "Contracting Agency", mean the DEPARTMENT.

Directive - A written communication to the CONTRACTOR from the Contracting Officer interpreting or enforcing a Contract requirement or ordering commencement of an item of Work.

Drawings - The Drawings which show the character and scope of the Work to be performed and which have been furnished by the DEPARTMENT or the DEPARTMENT's Consultant and are by reference made a part of the Contract Documents.

ENGINEER - The DEPARTMENT'S authorized representative of the Contracting Officer, as defined in the DEPARTMENT'S *delegation of authority letter* to be issued after notice-to-proceed, who is responsible for administration of the contract.

Equipment - All machinery together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the Work.

Final Acceptance - The DEPARTMENT's written acceptance of the Work following Final Completion and the performance of all Contract requirements by the CONTRACTOR.

Final Completion - The Project (or specified part thereof) has progressed to the point that all required Work is complete as determined by the Contracting Officer.

Furnish- To procure, transport, and deliver to the project site materials, labor, or equipment, for installation or use on the project.

General Requirements - Sections of Division 1 of the Specifications which contain administrative and procedural requirements as well as requirements for temporary facilities which apply to Specification Divisions 2 through 16.

Holidays - In the State of Alaska, Legal Holidays occur on:

1. New Year's Day- January 1
2. Martin Luther King's Birthday- Third Monday in January
3. President's Day- Third Monday in February
4. Seward's Day- Last Monday in March
5. Memorial Day- Last Monday in May
6. Independence Day- July 4
7. Labor Day- First Monday in September
8. Alaska Day- October 18
9. Veteran's Day - November 11
10. Thanksgiving Day- Fourth Thursday in November
11. Christmas Day - December 25
12. Every Sunday
13. Every day designated by public proclamation by the President of the United States or the Governor of the State as a legal Holiday.

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal Holidays. If the Holiday should fall on a Sunday, except (12) above, Sunday and the following Monday are both legal Holidays. See Title 44, Alaska Statutes.

Inspector - The Engineer's authorized representative assigned to make detailed observations relating to contract performance.

Install - Means to build into the Work, ready to be used in complete and operable condition and in compliance with Contract Documents.

Interim Work Authorization - A written order by the Engineer initiating changes to the Contract, within its general scope, until a subsequent Change Order is executed.

Invitation for Bids - A portion of the bidding documents soliciting bids for the Work to be performed.

Laboratory- The official testing laboratories of the DEPARTMENT or such other laboratories as may be designated by the Engineer or identified in the contract documents.

Materials -Any substances specified for use in the construction of the project.

Notice of Intent to Award- The written notice by the DEPARTMENT to all Bidders identifying the apparent successful Bidder and establishing the DEPARTMENT's intent to execute the Contract when all conditions required for execution of the Contract are met.

Notice to Proceed - A written notice to the CONTRACTOR to begin the Work and establishing the date on which the Contract Time begins.

Payment Bond - The security furnished by the CONTRACTOR and his Surety to guarantee payment of the debts covered by the bond.

Performance Bond - The security furnished by the CONTRACTOR and his Surety to guarantee performance and completion of the Work in accordance with the Contract.

Preconstruction Conference - A meeting between the CONTRACTOR and the Engineer, and other parties affected by the construction, to discuss the project before the CONTRACTOR begins work.

Project - The total construction, of which the Work performed under the Contract Documents, is the whole or a part, where such total construction may be performed by more than one CONTRACTOR.

Project Manager - The authorized representative of the Contracting Officer who is responsible for administration of the Contract.

Proposal - The offer of a Bidder, on the prescribed forms, to perform the Work at the prices quoted.

Proposal Guaranty - The security furnished with a Proposal to guarantee that the bidder will enter into a Contract if his Proposal is accepted by the DEPARTMENT.

Quality Assurance (QA) - Where referred to in the technical specifications (Divisions 2 through 16), Quality Assurance refers to measures to be provided by the CONTRACTOR as specified.

Quality Control (QC) - Tests and inspections by the CONTRACTOR to insure the acceptability of materials incorporated into the Work. QC test reports are used as a basis upon which to determine whether the Work conforms to the requirements of the Contract Documents and to determine its acceptability for payment.

Regulatory Requirements - Laws, rules, regulations, ordinances, codes and/or orders.

Schedule of Values - The DEPARTMENT's document, submitted by the CONTRACTOR and reviewed by the Contracting Officer, which shall serve as the basis for computing payment and for establishing the value of separate items of work which comprise the Contract Price.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the CONTRACTOR to illustrate material, equipment, fabrication, or erection for some portion of the Work. Where used in the Contract Documents, "Shop Drawings" shall also mean "Submittals".

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative and procedural details applicable thereto.

Subcontractor - An individual, firm, or corporation to whom the CONTRACTOR or any other Subcontractor sublets part of the Contract.

Substantial Completion - Although not fully completed, the Work (or a specified part thereof) has progressed to the point where, in the opinion of the Contracting Officer, as evidence by the DEPARTMENT's written notice, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "Substantially Complete" and "Substantially Completed" as applied to any Work refer to Substantial Completion thereof.

Supplemental Agreement - A written agreement between the CONTRACTOR and the DEPARTMENT covering work that is not within the general scope of the Contract.

Supplementary Conditions - The part of the Contract Documents which amends or supplements these General Conditions.

Supplier - A manufacturer, fabricator, distributor, materialman or vendor of materials or equipment.

Surety - The corporation, partnership, or individual, other than the CONTRACTOR, executing a bond furnished by the CONTRACTOR.

Traffic Control Plan (TCP) - A drawing of one or more specific plans that detail the routing of pedestrian, and/or vehicular traffic through or around a construction area.

Unit Price Work - Work to be paid for on the basis of unit prices.

Using Agency - The entity who will occupy or use the completed Project.

Utility - The privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway or street drainage, and other similar commodities, including publicly owned fire and police signal systems, street lighting systems, and railroads which directly or indirectly serve the public or any part thereof. The term "utility" shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary."

Work - Work is the act of, and the result of, performing services, furnishing labor, furnishing and incorporating materials and equipment into the Project and performing other duties and obligations, all as required by the Contract Documents. Such Work, however incremental, will culminate in the entire completed Project, or the various separately identifiable parts thereof.

ARTICLE 2- AUTHORIZATION AND LIMITATIONS

2.1 Authorities and Limitations

- 2.1.1 The Contracting Officer alone shall have the power to bind the DEPARTMENT and to exercise the rights, responsibilities, authorities and functions vested in the Contracting Officer by the Contract Documents. The Contracting Officer shall have the right to designate in writing authorized representatives to act for him. Wherever any provision of the Contract Documents specifies an individual or organization, whether governmental or private, to perform any act on behalf of or in the interest of the DEPARTMENT that individual or organization shall be deemed to be the Contracting Officer's authorized representative under this Contract but only to the extent so specified.
- 2.1.2 The CONTRACTOR shall perform the Work in accordance with any written order (including but not limited to instruction, direction, interpretation or determination) issued by an authorized representative in accordance with the authorized representative's authority to act for the Contracting Officer. The CONTRACTOR assumes all the risk and consequences of performing the Work in accordance with any order (including but not limited to instruction, direction, interpretation or determination) of anyone not authorized to issue such order, and of any order not in writing.
- 2.1.3 Should the Contracting Officer or his authorized representative designate Consultant(s) to act for the DEPARTMENT as provided for in Paragraph 2.1.1, the performance or nonperformance of the Consultant under such authority to act, shall not give rise to any contractual obligation or duty of the Consultant to the CONTRACTOR, any Subcontractor, any Supplier, or any other organization performing any of the Work or any Surety representing them.

2.2 Evaluations by Contracting Officer:

- 2.2.1 The Contracting Officer will decide all questions which may arise as to:
- a. Quality and acceptability of materials furnished;
 - b. Quality and acceptability of Work performed;
 - c. Compliance with the schedule of progress;
 - d. Interpretation of Contract Documents;
 - e. Acceptable fulfillment of the Contract on the part of the CONTRACTOR.
- 2.2.2 In order to avoid cumbersome terms and confusing repetition of expressions in the Contract Documents the terms "as ordered", "as directed", "as required", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used it shall be understood as if the expression were followed by the words "the Contracting Officer".
- When such terms are used to describe a requirement, direction, review or judgment of the Contracting Officer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).
- 2.2.3 The use of any such term or adjective shall not be effective to assign to the DEPARTMENT any duty of authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

2.3 Means & Methods:

The means, methods, techniques, sequences or procedures of construction, or safety precautions and the program incident thereto, and the failure to perform or furnish the Work in accordance with the Contract Documents are the sole responsibility of the CONTRACTOR.

2.4 Visits to Site/Place of Business:

The Contracting Officer will make visits to the site and approved remote storage sites at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Contracting Officer may, at reasonable times, inspect that part of the plant or place of business of the CONTRACTOR or Subcontractor that is related to the performance of the Contract. Such observations or the lack of such observations shall in no way relieve the CONTRACTOR from his duty to perform the Work in accordance with the Contract Documents.

ARTICLE 3- CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Incomplete Contract Documents:

The submission of a bid by the Bidder is considered a representation that the Bidder examined the Contract Documents to make certain that all sheets and pages were provided and that the Bidder is satisfied as to the conditions to be encountered in performing the Work. The DEPARTMENT expressly denies any responsibility or liability for a bid submitted on the basis of an incomplete set of Contract Documents.

3.2 Copies of Contract Documents:

The DEPARTMENT shall furnish to the CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

3.3 Scope of Work:

The Contract Documents comprise the entire Contract between the DEPARTMENT and the CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the Regulatory Requirements of the place of the Project.

It is specifically agreed between the parties executing this Contract that it is not intended by any of the provisions of the Contract to create in the public or any member thereof a third party benefit, or to authorize anyone not a party to this Contract to maintain a suit pursuant to the terms or provisions of the Contract.

3.4 Intent of Contract Documents:

- 3.4.1 It is the intent of the Contract Documents to describe a functionally complete Project to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied, without any adjustment in Contract Price or Contract Time, whether or not specifically called for.
- 3.4.2 Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Regulatory Requirements of any governmental authority, whether such reference be specific or by implication, shall mean the edition stated in the Contract Documents or if not stated the latest standard specification, manual, code or Regulatory Requirements in effect at the time of Advertisement for the Project (or, on the Effective Date of the Contract if there was no Advertisement). However, no provision 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 duties and responsibilities of the DEPARTMENT and the CONTRACTOR, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to the DEPARTMENT or any of the DEPARTMENT's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

3.5 Discrepancy in Contract Documents:

- 3.5.1 Before undertaking the Work, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures, and dimensions shown thereon and all applicable field measurements. Work in the area by the CONTRACTOR shall imply verification of figures, dimensions and field measurements. If, during the above study or during the performance of the Work, the CONTRACTOR finds a conflict, error, discrepancy or omission in the Contract Documents, or a discrepancy between the Contract Documents and any standard specification, manual, code, or Regulatory Requirement which affects the work, the CONTRACTOR shall promptly report such discrepancy in writing to the Contracting Officer. The CONTRACTOR shall obtain a written interpretation or clarification from the Contracting Officer before proceeding with any Work affected thereby. Any adjustment made by the CONTRACTOR without this

determination shall be at his own risk and expense. However, the CONTRACTOR shall not be liable to the DEPARTMENT for failure to report any conflict, error or discrepancy in the Contract Documents unless the CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

3.5.2 Discrepancy- Order of Precedence:

When conflicts errors or discrepancies within the Contract Documents exist, the order of precedence from most governing to least governing will be as follows:

- Contents of Addenda
- Supplementary Conditions
- General Conditions
- General Requirements
- Technical Specifications
- Drawings
- Recorded dimensions will govern over scaled dimensions
- Large scale details over small scale details
- Schedules over plans
- Architectural drawings over structural drawings Structural drawings over mechanical and electrical drawings

3.6 Clarifications and Interpretations:

The Contracting Officer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as the Contracting Officer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

3.7 Reuse of Documents:

Neither the CONTRACTOR nor any Subcontractor, or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the DEPARTMENT shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or for the DEPARTMENT and they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Contracting Officer.

Contract Documents prepared by the CONTRACTOR in connection with the Work shall become the property of the DEPARTMENT.

ARTICLE 4 - LANDS AND PHYSICAL CONDITIONS

4.1 Availability of Lands:

The DEPARTMENT shall furnish as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for use of the CONTRACTOR in connection with the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the DEPARTMENT, unless otherwise provided in the Contract Documents. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. The CONTRACTOR shall provide all waste and disposal areas, including disposal areas for hazardous or contaminated materials, at no additional cost to the DEPARTMENT.

4.2 Visit to Site:

The submission of a bid by the CONTRACTOR is considered a representation that the CONTRACTOR has visited and carefully examined the site and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the Contract Documents.

4.3 Explorations and Reports:

Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the DEPARTMENT in preparation of the Contract Documents. The CONTRACTOR may for his purposes rely upon the accuracy of the factual data contained in such reports, but not upon interpretations or opinions drawn from such factual data contained therein or for the completeness or sufficiency thereof. Except as indicated in the immediately preceding sentence and in paragraphs 4.4 and 9.9, CONTRACTOR shall have full responsibility with respect to surface and subsurface conditions at the site.

4.4 Utilities:

The horizontal and vertical locations of known underground utilities as shown or indicated by the Contract Documents are approximate and are based on information and data furnished to the DEPARTMENT by the owners of such underground utilities.

4.4.2 The CONTRACTOR shall have full responsibility for:

- a. Reviewing and checking all information and data concerning utilities.
- b. Locating all underground utilities shown or indicated in the Contract Documents which are affected by the work.
- c. Coordination of the Work with the owners of all utilities during construction.
- d. Safety and protection of all utilities as provided in paragraph 6.17.
- e. Repair of any damage to utilities resulting from the Work in accordance with 4.4.4 and 4.5.

4.4.3 If Work is to be performed by any utility owner, the CONTRACTOR shall cooperate with such owners to facilitate the Work.

4.4.4 In the event of interruption to any utility service as a result of accidental breakage or as result of being exposed or unsupported, the CONTRACTOR shall promptly notify the utility owner and the Contracting Officer. If service is interrupted, repair work shall be continuous until the service is restored. No Work shall be undertaken around fire hydrants until provisions for continued service has been approved by the local fire authority.

4.5 Damaged Utilities:

When utilities are damaged by the CONTRACTOR, the utility owner shall have the choice of repairing the utility or having the CONTRACTOR repair the utility. In the following circumstances, the CONTRACTOR shall reimburse the utility owner for repair costs or provide at no cost to the utility owner or the DEPARTMENT, all materials, equipment and labor necessary to complete repair of the damage:

- a. When the utility is shown or indicated in the Contract Documents.
- b. When the utility has been located by the utility owner.
- c. When no locate was requested by the CONTRACTOR for utilities shown or indicated in the Contract Documents.
- d. All visible utilities.
- e. When the CONTRACTOR could have, otherwise, reasonably been expected to be aware of such utility.

4.6 Utilities Not Shown or Indicated:

If, while directly performing the Work, an underground utility is uncovered or revealed at the site which was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.19) identify the owner of such underground utility and give written notice thereof to that owner and to the Contracting Officer. The Contracting Officer will promptly review the underground utility to determine the extent to which the Contract Documents and the Work should be modified to reflect the impacts of the discovered utility. The Contract Documents will be amended or supplemented in accordance with paragraph 9.2 and to the extent necessary through the issuance of a change document by the Contracting Officer. During such time, the CONTRACTOR shall be responsible for the safety and protection of such underground utility as provided in paragraph 6.17. The CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are directly attributable to the existence of any underground utility that was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of.

4.7 Survey Control:

The DEPARTMENT will identify sufficient horizontal and vertical control data to enable the CONTRACTOR to survey and layout the Work. All survey work shall be performed under the direct supervision of a registered land surveyor when required by paragraph 7.8. Copies of all survey notes shall be provided to the DEPARTMENT at an interval determined by the Project Manager. The Project Manager may request submission on a weekly or longer period at his discretion. Any variations between the Contract Documents and actual field conditions shall be identified in the survey notes.

ARTICLE 5 - BONDS, INSURANCE, AND INDEMNIFICATION

5.1 Delivery of Bonds:

When the CONTRACTOR delivers the executed Contract to the Contracting Officer, the CONTRACTOR shall also deliver to the Contracting Officer such bonds as the CONTRACTOR may be required to furnish in accordance with paragraph 5.2.

5.2 Bonds:

The CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount as shown on the Contract as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect for one year after the date of Final Acceptance and until all obligations under this Contract, except special guarantees as per 12.7, have been met. All bonds shall be furnished on forms provided by the DEPARTMENT (or copies thereof) and shall be executed by such Sureties as are authorized to do business in the State of Alaska. The Contracting Officer may at his option copy the Surety with notice of any potential default or liability.

5.3 Replacement of Bond and Surety:

If the Surety on any bond furnished in connection with this Contract is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.2, or otherwise becomes unacceptable to the DEPARTMENT, or if any such Surety fails to furnish reports as to his financial condition as requested by the DEPARTMENT, the CONTRACTOR shall within five days thereafter substitute another bond and Surety, both of which must be acceptable to DEPARTMENT.

An individual Surety may be replaced by a corporate Surety during the course of the Contract period. If the Surety desires to dispose of the collateral posted, the DEPARTMENT may, at its option, accept substitute collateral.

5.4 Insurance Requirements:

5.4.1 The CONTRACTOR shall provide evidence of insurance with a carrier or carriers satisfactory to the DEPARTMENT covering injury to persons and/or property suffered by the State of Alaska or a third party, as a result of operations which arise both out of and during the course of this Contract by the CONTRACTOR or by any Subcontractor. This coverage will also provide protection against injuries to all employees of the CONTRACTOR and the employees of any Subcontractor engaged in Work under this Contract. The delivery to the DEPARTMENT of a written 30 day notice is required before cancellation of any coverage or reduction in any limits of liability. Insurance carriers shall have an acceptable financial rating.

5.4.2 The CONTRACTOR shall maintain in force at all times during the performance of the Work under this agreement the following policies and minimum limits of liability. Failure to maintain insurance may, at the option of the Contracting Officer, be deemed Defective Work and remedied in accordance with the Contract. Where specific limits and coverages are shown, it is understood that they shall be the minimum acceptable. The requirements of this paragraph shall not limit the CONTRACTOR's responsibility to indemnify under paragraph 5.5. Additional insurance requirements specific to this Contract are contained in the Supplementary Conditions, when applicable.

a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract, to include:

1. Waiver of subrogation against the State and Employer's Liability Protection in the amount of \$500,000 each accident / \$500,000 each disease.

2. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the Work, "Other States" endorsement shall be required as a condition of the contract.
3. Whenever the Work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000.

- b. Comprehensive or Commercial General Liability Insurance: Such insurance shall cover all operations by or on behalf of the CONTRACTOR and provide insurance for bodily injury and property damage liability including coverage for:

Premises and operations; products and completed operations; contractual liability insuring obligations assumed under paragraph 5.5, Indemnification; broad form property damage; and personal injury liability.

The minimum limits of liability shall be:

1. If the CONTRACTOR carries a *Comprehensive General Liability* policy, the limits of liability shall not be less than a Combined Single Limit for bodily injury, property damage and Personal Injury Liability of:
 - \$1,000,000 each occurrence
 - \$2,000,000 aggregate
2. If the CONTRACTOR carries a *Commercial General Liability* policy, the limits of liability shall not be less than:
 - \$1,000,000 each occurrence (Combined Single Limit for bodily injury and property damage)
 - \$1,000,000 for Personal Injury Liability
 - \$2,000,000 aggregate for Products-Completed Operations
 - \$2,000,000 general aggregate

The State of Alaska, DEPARTMENT of Corrections shall be named as an "Additional Insured" under all liability coverages listed above.

- c. Automobile Liability Insurance: Such insurance shall cover all owned, hired and non-owned vehicles and provide coverage not less than that of the Business Automobile Policy in limits not less than the following:

\$1,000,000 each occurrence
(Combined Single Limit for bodily injury and property damage.)

- d. Builder's Risk Insurance: Coverage shall be on an "All Risk" completed value basis including "quake and flood" and protect the interests of the DEPARTMENT, the CONTRACTOR and his Subcontractors. Coverage shall include all materials, supplies and equipment that are intended for specific installation in the Project while such materials, supplies and equipment are located at the Project site, in transit from port of arrival to job site and while temporarily located away from the Project site.

In addition to providing the above coverages the CONTRACTOR shall ensure that Subcontractors provide insurance coverages as noted in clauses a., b., and c. of this subparagraph. Builders Risk Insurance will only be required of subcontractors if so stated in the Supplementary Conditions.

- e. Other Coverages:
As specified in the Supplementary Conditions.

5.4.3 In addition to providing the above coverages the Contractor shall, in any contract or agreement with subcontractors performing work, require that all indemnities and waivers of subrogation it obtains, and that any stipulation to be named as an additional insured it obtains, also be extended to waive rights of subrogation against the State of Alaska and to add the State of Alaska as additional named indemnitee and as additional insured.

Evidence of insurance shall be furnished to the Department prior to the award of the contract. Such evidence, executed by the carrier's representative and issued to the Department, shall consist of a certificate of insurance or the policy declaration page with required endorsements attached thereto which denote the type, amount, class of operations covered, effective (and retroactive) dates, and dates of expiration. Acceptance by the Department of deficient evidence does not constitute a waiver of contract requirements.

When a certificate of insurance is furnished, it shall contain the following statement:

"This is to certify that the policies described herein comply with all aspects of the insurance requirements of (Project Name and Number)"

5.5 Indemnification:

The CONTRACTOR shall indemnify, save harmless, and defend the DEPARTMENT, its agents and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from the construction or the CONTRACTOR's performance of this Contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the DEPARTMENT's negligence.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision of Work:

The CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. All Work under this Contract shall be performed in a skillful and workmanlike manner. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

6.2 Superintendence by CONTRACTOR:

The CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent. The Contracting Officer shall be advised in writing of the superintendent's name, local address, and telephone number. This written advice is to be kept current until Final Acceptance by the DEPARTMENT. The superintendent will be the CONTRACTOR's representative at the site and shall have full authority to act and sign documents on behalf of the CONTRACTOR.

All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall cooperate with the Contracting Officer in every way possible.

6.3 Character of Workers:

The CONTRACTOR shall provide a sufficient number of competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. The Contracting Officer may, in writing, require the CONTRACTOR to remove from the Work any employee the Contracting Officer deems incompetent, careless, or otherwise detrimental to the progress of the Work, but the Contracting Officer shall have no duty to exercise this right.

6.4 CONTRACTOR to Furnish:

Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance testing, start-up and completion of the Work.

6.5 Materials and Equipment:

All materials and equipment shall be of specified quality and new, except as otherwise provided in the Contract Documents. If required by the Contracting Officer, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to the DEPARTMENT or any of the DEPARTMENT's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

6.6 Anticipated Schedules:

- 6.6.1 Within fourteen (14) calendar days after the date of the Notice to Proceed, the CONTRACTOR shall submit to the Contracting Officer for review an anticipated progress schedule indicating the starting and completion dates of the various stages of the Work. No individual stage of work shall exceed fourteen (14) calendar days.

- 6.6.2 Within twenty one (21) days after the date of the Notice to Proceed, the CONTRACTOR shall submit to the Contracting Officer for review an anticipated schedule of Shop Drawing submissions
- 6.6.3 Prior to submitting the CONTRACTOR's first Application for Payment, the CONTRACTOR shall submit for review and approval:

Anticipated Schedule of Values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by the CONTRACTOR at the time of submission.

6.7 Finalizing Schedules:

Prior to processing the first Application for Payment the Contracting Officer and the CONTRACTOR will finalize schedules required by paragraph 6.6. The finalized progress schedule will be acceptable to the DEPARTMENT as providing information related to the orderly progression of the Work to completion within the Contract Time; but such acceptance will neither impose on the DEPARTMENT nor relieve the CONTRACTOR from full responsibility for the progress or scheduling of the Work. If accepted, the finalized schedule of Shop Drawing and other required submissions will be acknowledgment by the DEPARTMENT as providing a workable arrangement for processing the submissions. If accepted, the finalized Schedule of Values will be acknowledgment by the DEPARTMENT as an approximation of anticipated value of Work accomplished over the anticipated Contract Time. Receipt and acceptance of a schedule submitted by the CONTRACTOR shall not be construed to assign responsibility for performance or contingencies to the DEPARTMENT or relieve the CONTRACTOR of his responsibility to adjust his forces, equipment, and work schedules as may be necessary to insure completion of the Work within prescribed Contract Time. Should the prosecution of the Work be discontinued for any reason, the CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of resuming operations.

6.8 Adjusting Schedules:

Upon substantial changes to the schedule or upon request the CONTRACTOR shall submit to the Contracting Officer for acceptance (to the extent indicated in paragraph 6.7 and the General Requirements) adjustments in the schedules to reflect the actual present and anticipated progress of the Work.

6.9 Substitutes or "Or-Equal" Items:

- 6.9.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that substitution is limited or not permitted, materials or equipment of other Suppliers may be accepted by the Contracting Officer only if sufficient information is submitted by the CONTRACTOR which clearly demonstrates to the Contracting Officer that the material or equipment proposed is equivalent or equal in all aspects to that named. The procedure for review by the Contracting Officer will include the following as supplemented in the General Requirements.
- 6.9.2 Requests for review of substitute items of material and equipment will not be accepted by the Contracting Officer from anyone other than the CONTRACTOR.

- 6.9.3 If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the Contracting Officer for Approval thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as the specified. The application will state that the evaluation and Approval of the proposed substitute will not delay the CONTRACTOR's timely achievement of Substantial or Final Completion, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the DEPARTMENT for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.
- 6.9.4 All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the DEPARTMENT in evaluating the proposed substitute. The DEPARTMENT may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute. The Contracting Officer may reject any substitution request which the Contracting Officer determines is not in the best interest of the DEPARTMENT.
- 6.9.5 Substitutions shall be permitted during or after the bid period as allowed and in accordance with Document 00020- Invitation for Bids, Document 00700-General Conditions, and Document 01630- Product Options and Substitutions.

6.10 Substitute Means and Methods:

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Contracting Officer, if the CONTRACTOR submits sufficient information to allow the Contracting Officer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by the Contracting Officer will be similar to that provided in paragraph 6.9 as applied by the Contracting Officer and as may be supplemented in the General Requirements.

6.11 Evaluation of Substitution:

The Contracting Officer will be allowed a reasonable time within which to evaluate each proposed substitute. The Contracting Officer will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Contracting Officer's prior written Approval which will be evidenced by either a Change Order or a Shop Drawing Approved in accordance with Sections 6.20 and 6.21. The Contracting Officer may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other Surety with respect to any substitute.

6.12 Dividing the Work:

The divisions and sections of the Specifications and the identifications of any Drawings shall not control the CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.13 Subcontractors:

The CONTRACTOR may utilize the services of appropriately licensed Subcontractors on those parts of the Work which, under normal contracting practices, are performed by Subcontractors, in accordance with the following conditions:

- 6.13.1 The CONTRACTOR shall not award any Work to any Subcontractor without prior written Approval of the Contracting Officer. This Approval will not be given until the CONTRACTOR submits to the Contracting Officer a written statement concerning the proposed award to the Subcontractor which shall contain required Equal Employment Opportunity documents, evidence of insurance whose limits are acceptable to the CONTRACTOR, and an executed copy of the subcontract. All subcontracts shall contain provisions for prompt payment, release of retainage, and interest on late payment amounts and retainage as specified in A.S. 36.90.210. Contracts between subcontractors, regardless of tier, must also contain these provisions. No acceptance by the Contracting Officer of any such Subcontractor shall constitute a waiver of any right of the DEPARTMENT to reject Defective Work.
- 6.13.2 The CONTRACTOR shall be fully responsible to the DEPARTMENT for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions.
- 6.13.3 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the DEPARTMENT and contains waiver provisions as required by paragraph 13.17 and termination provisions as required by Article 14.
- 6.13.4 Nothing in the Contract Documents shall create any contractual relationship between the DEPARTMENT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the DEPARTMENT to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Regulatory Requirements. The DEPARTMENT will not undertake to settle any differences between or among the CONTRACTOR, Subcontractors, or Suppliers.
- 6.13.5 The CONTRACTOR and Subcontractors shall coordinate their work and cooperate with other trades so to facilitate general progress of Work. Each trade shall afford other trades every reasonable opportunity for installation of their work and storage of materials. If cooperative work of one trade must be altered due to lack of proper supervision or failure to make proper provisions in time by another trade, such conditions shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time.
- 6.13.6 The CONTRACTOR shall include on his own payrolls any person or persons working on this Contract who are not covered by written subcontract, and shall ensure that all Subcontractors include on their payrolls all persons performing Work under the direction of the Subcontractor.

6.14 Use of Premises:

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project limits and approved remote storage sites and lands and areas identified in and permitted by Regulatory Requirements, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against the DEPARTMENT by any such owner or occupant because of the performance of the Work, the CONTRACTOR shall hold the DEPARTMENT harmless.

6.15 Structural Loading:

The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.16 Record Documents:

The CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Directives, Change Orders, Supplemental Agreements, and written interpretations and clarifications (issued pursuant to paragraph 3.6) in good order and annotated to show all changes made during construction. These record documents together with all Approved samples and a counterpart of all Approved Shop Drawings will be available to the Contracting Officer for reference and copying. Upon completion of the Work, the annotated record documents, samples and Shop Drawings will be delivered to the Contracting Officer. Record documents shall accurately record variations in the Work which vary from requirements shown or indicated in the Contract Documents.

6.17 Safety and Protection:

The CONTRACTOR alone shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- 6.17.1 All employees on the Work and other persons and organizations who may be affected thereby;
- 6.17.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 6.17.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR shall comply with all applicable Regulatory Requirements of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time except as stated in 4.6, except damage or loss attributable to unforeseeable causes beyond the control of and without the fault or negligence of the CONTRACTOR, including but not restricted to acts of God, of the public enemy or governmental authorities. The CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until Final Acceptance (except as otherwise expressly provided in connection with Substantial Completion).

6.18 Safety Representative:

The CONTRACTOR shall designate a responsible safety representative at the site. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the Contracting Officer.

6.19 Emergencies:

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the DEPARTMENT, is obligated to act to prevent threatened damage, injury or loss. The CONTRACTOR shall give the Contracting Officer prompt written notice if the CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the DEPARTMENT determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a change will be authorized by one of the methods indicated in Paragraph 9.2, as determined appropriate by the Contracting Officer.

6.20 Shop Drawings and Samples:

- 6.20.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the Contracting Officer for review and Approval in accordance with the accepted schedule of Shop Drawing submissions the required number of all Shop Drawings, which will bear a stamp or specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as the Contracting Officer may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the Contracting Officer to review the information as required.
- 6.20.2 The CONTRACTOR shall also submit to the Contracting Officer for review and Approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.
- 6.20.3 Before submission of each Shop Drawing or sample the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 6.20.4 At the time of each submission the CONTRACTOR shall give the Contracting Officer specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to the Contracting Officer for review and Approval of each such variation. All variations of the proposed Shop Drawing from that specified will be identified in the submission and available maintenance, repair and replacement service will be indicated. The submittal will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such variation, including costs of redesign and claims of other Contractors affected by the resulting change, all of which shall be considered by the DEPARTMENT in evaluating the proposed variation. If the variation may result in a change of Contract Time or Price, or Contract responsibility, and is not minor in nature; the CONTRACTOR must submit a written request for Change Order with the variation to notify the DEPARTMENT of his intent. The DEPARTMENT may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed variation. The Contracting Officer may reject any variation request which the Contracting Officer determines is not in the best interest of the DEPARTMENT.

6.21 Shop Drawing and Sample Review:

- 6.21.1 The Contracting Officer will review with reasonable promptness Shop Drawings and samples, but the Contracting Officer's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate acceptance of the assembly in which the item functions. The CONTRACTOR shall make corrections required by the Contracting Officer and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review. The CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by the Contracting Officer on previous submittals.
- 6.21.2 The Contracting Officer's review of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless the CONTRACTOR has in writing advised the Contracting Officer of each such variation at the time of submission as required by paragraph 6.20.4. The Contracting Officer if he so determines, may give written Approval of each such variation by Change Order, except that, if the variation is minor and no Change Order has been requested a

specific written notation thereof incorporated in or accompanying the Shop Drawing or sample review comments shall suffice as a modification. Approval by the Contracting Officer will not relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.20.3.

- 6.21.3 The DEPARTMENT shall be responsible for all DEPARTMENT review costs resulting from the initial submission and the forms resubmittal. The CONTRACTOR shall, at the discretion of the Contracting Agency, pay all review costs incurred by the DEPARTMENT as a result of any additional re-submittals.
- 6.21.4 Where a Shop Drawing or ample is required by the Specifications, any related Work performed prior to the Contracting Officer's review and Approval of the pertinent submission will be the sole expense and responsibility of the CONTRACTOR.

6.22 Maintenance During Construction:

The CONTRACTOR shall maintain the Work during construction and until Substantial Completion, at which time the responsibility for maintenance shall be established in accordance with paragraph 13.10.

6.23 Continuing the Work:

The CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the DEPARTMENT. No Work shall be delayed or postponed pending resolution of any disputes, disagreements, or claims except as the CONTRACTOR and the Contracting Officer may otherwise agree in writing.

6.24 Consent to Assignment:

The CONTRACTOR shall obtain the prior written consent of the Contracting Officer to any proposed assignment of any interest in, or part of this Contract. The consent to any assignment or transfer shall not operate to relieve the CONTRACTOR or his Sureties of any of his or its obligations under this Contract or the Performance Bonds. Nothing herein contained shall be construed to hinder, prevent, or affect an assignment of monies due, or to become due hereunder, made for the benefit of the CONTRACTOR's creditors pursuant to law.

6.25 Use of Explosives:

- 6.25.1 When the use of explosives is necessary for the prosecution of the Work, the CONTRACTOR shall exercise the utmost care not to endanger life or property, including new Work and shall follow all Regulatory Requirements applicable to the use of explosives. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.
- 6.25.2 All explosives shall be stored in a secure manner in compliance with all Regulatory Requirements, and all such storage places shall be clearly marked. Where no Regulatory Requirements apply, safe storage shall be provided not closer than 1,000 feet from any building, camping area, or place of human occupancy.
- 6.25.3 The CONTRACTOR shall notify each public utility owner having structures in proximity to the site of his intention to use explosives. Such notice shall be given sufficiently in advance to enable utility owners to take such steps as they may deem necessary to protect their property from injury. However, the CONTRACTOR shall be responsible for all damage resulting from the use of the explosives, whether or not, utility owners act to protect their property.

6.26 CONTRACTOR's Records:

- 6.26.1 Records of the CONTRACTOR and Subcontractors relating to personnel, payrolls, invoices of materials, and any and all other data relevant to the performance of this Contract, must be kept on a generally recognized accounting system. Such records must be available during normal work hours to the Contracting Officer for purposes of investigation to ascertain compliance with Regulatory Requirements and provisions of the Contract

Documents.

- 6.26.2 Payroll records must contain the name and address of each employee, his correct classification, rate of pay, daily and weekly number of hours of work, deductions made, and actual wages paid. The CONTRACTOR and Subcontractors shall make employment records available for inspection by the Contracting Officer and representatives of the U.S. and/or State Department of Labor and will permit such representatives to interview employees during working hours on the Project.
- 6.26.3 Records of all communications between the DEPARTMENT and the CONTRACTOR and other parties, where such communications affected performance of this Contract, must be kept by the CONTRACTOR and maintained for a period of three years from Final Acceptance. The DEPARTMENT or its assigned representative may perform an audit of these records during normal work hours after written notice to the CONTRACTOR.

6.27 Load Restrictions

The CONTRACTOR shall comply with all load restrictions as set forth in the "Administrative Permit Manual", and Title 17, Chapter 25, of the Alaska Administrative Code in the hauling of materials on public roads, beyond the limits of the project, and on all public roads within the project limits that are scheduled to remain in use upon completion of the project.

Overload permits may, at the discretion of the State, be issued for travel beyond the project limits for purposes of mobilization and/or demobilization. Issuance of such a permit will not relieve the CONTRACTOR of liability for damage which may result from the moving of equipment.

The operation of equipment of such weight or so loaded as to cause damage to any type of construction will not be permitted. No overloads will be permitted on the base course or surface course under construction. No loads will be permitted on a concrete pavement, base or structure before the expiration of the curing period. The CONTRACTOR shall be responsible for ail damage done by his equipment.

ARTICLE 7- LAWS AND REGULATIONS

7.1 Laws to be Observed

The CONTRACTOR shall keep fully informed of all federal and state Regulatory Requirements and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of the Work. The CONTRACTOR shall at all times observe and comply with all such Regulatory Requirements, orders and decrees; and shall protect and indemnify the DEPARTMENT and its representatives against claim or liability arising from or based on the violation of any such Regulatory Requirement, order, or decree whether by the CONTRACTOR, Subcontractor, or any employee of either. Except where otherwise expressly required by applicable Regulatory Requirements, the DEPARTMENT shall not be responsible for monitoring CONTRACTOR's compliance with any Regulatory Requirements.

7.2 Permits, Licenses, and Taxes

- 7.2.1 The CONTRACTOR shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work. As a condition of performance of this Contract, the CONTRACTOR shall pay all federal, state and local taxes incurred by the CONTRACTOR, in the performance of this Contract. Proof of payment of these taxes is a condition precedent to final payment by the DEPARTMENT under this Contract.
- 7.2.2 The CONTRACTOR's certification that taxes have been paid (as contained in the *Release of Contract*) will be verified with the Department of Revenue and Department of Labor, prior to final payment.
- 7.2.3 If any federal, state or local tax is imposed, charged, or repealed after the date of bid opening and is made applicable to and paid by the CONTRACTOR on the articles or supplies herein contracted for, then the Contract shall be increased or decreased accordingly by a Change Order.

7.3 Patented Devices, Materials and Processes

If the CONTRACTOR employs any design, device, material, or process covered by letters of patent, trademark or copyright, the CONTRACTOR shall provide for such use by suitable legal agreement with the patentee or owner. The CONTRACTOR and the Surety shall indemnify and save harmless the DEPARTMENT, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the DEPARTMENT for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of the Work.

7.4 Compliance of Specifications and Drawings:

If the CONTRACTOR observes that the Specifications and Drawings supplied by the DEPARTMENT are at variance with any Regulatory Requirements, CONTRACTOR shall give the Contracting Officer prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 9.2. as determined appropriate by the Contracting Officer. If the CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Regulatory Requirements, and without such notice to the Contracting Officer, the CONTRACTOR shall bear all costs arising therefrom; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings supplied by the DEPARTMENT are in accordance with such Regulatory Requirements.

7.5 Accident Prevention:

The CONTRACTOR shall comply with AS 18.60.075 and all pertinent provisions of the Construction Code Occupational Safety and Health Standards issued by the Alaska Department of Labor.

7.6 Sanitary Provisions:

The CONTRACTOR shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees and DEPARTMENT representatives as may be necessary to comply with the requirements of the State and local Boards of Health, or of other bodies or tribunals having jurisdiction.

7.7 Business Registration:

Comply with AS 08.18.011, as follows: "it is unlawful for a person to submit a bid or work as a contractor until he has been issued a certificate of registration by the Department of Commerce. A partnership or joint venture shall be considered registered if one of the general partners or venturers whose name appears in the name under which the partnership or venture does business is registered."

7.8 Professional Registration and Certification:

All craft trades, architects, engineers and land surveyors, electrical administrators, and explosive handlers employed under the Contract shall specifically comply with applicable provisions of AS 08.18, 08.48,-08.40, and 08.52. Provide copies of individual licenses within seven days following a request from the Contracting Officer.

7.9 Local Building Codes:

The CONTRACTOR shall comply with AS 35.10.025 which requires construction in accordance with applicable local building codes to include the obtaining of required permits.

7.10 Air Quality Control:

The CONTRACTOR shall comply with all applicable provisions of AS 46.03.04 as pertains to Air Pollution Control.

7.11 Archaeological or Paleontological Discoveries:

When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, or paleontological remains, such as shell heaps, land or sea mammal bones or tusks, the CONTRACTOR shall cease operations immediately and notify the Contracting Officer. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the Contracting Officer order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra Work, such shall be covered by an appropriate Contract change document.

7.12 Applicable Alaska Preferences:

7.12.1 In determining the low bidder for State funded projects, a 5% bid preference has been given to "Alaska bidders", as required under AS 36.30.170. "Alaska bidder" means a person who:

- (1) holds a current Alaska business license;
- (2) submits a bid for goods, services, or construction under the name as appearing on the person's current Alaska business license
- (3) has maintained a place of business within the state staffed by the bidder or an employee of the bidder for a period of six months immediately preceding the date of the bid;
- (4) is incorporated or qualified to do business under the laws of the state, is a sole proprietorship, and the proprietor is a resident of the state or is a partnership, and all partners are residents of the state; and
- (5) if a joint venture, is composed entirely of ventures that qualify under (1) through (4), above.

7.12.2 In determining the low bidder for State funded projects, an "Alaska products" preference has been given as required under AS 36.30.326 - 36.30.332, when the bidder designates the use of Alaska products. The Bidder shall complete the Alaska Products Preference Worksheet per its instructions and submit it with the Bid

Proposal. If the successful Bidder/CONTRACTOR proposes to use an Alaska product and does not do so, a penalty will be assessed against the successful Bidder/CONTRACTOR in an amount equal to the product preference percentage granted to the successful Bidder/CONTRACTOR plus one percent multiplied by the total declared value of the Alaska products proposed but not used.

- 7.12.3 Pursuant to AS 36.15.050 and AS 36.30.322, "agricultural/wood" products harvested in Alaska shall be used in State funded projects whenever they are priced no more than seven percent above agricultural/wood products harvested outside the state and are of a like quality as compared with agricultural/wood products harvested outside the state, when such products are not utilized, the CONTRACTOR shall document the efforts he made towards obtaining agricultural/wood products harvested in Alaska and include in this documentation a written statement that he contacted the manufacturers and suppliers identified on the Department of Commerce and Economic Development's list of suppliers of Alaska forest products concerning the availability of agricultural/wood products harvested in Alaska and, if available, the product prices. The CONTRACTOR's use of agricultural/wood products that fail to meet the requirements of this section shall be subject to the provisions of paragraphs 12.6 through 12.9 relating to Defective Work.
- 7.12.4 The CONTRACTOR shall maintain records, in a format acceptable to the Contracting Officer, which establish the type and extent of "agricultural/wood" and "Alaska" products utilized. All record keeping and documentation associated with the requirements 7.12.2 and 7.12.3 of this paragraph must be provided to the DEPARTMENT upon written request or as otherwise provided within the Contract Documents.

7.13 Wages and Hours of Labor:

- 7.13.1 One certified copy of all payrolls shall be submitted weekly to the State Department of Labor and, upon request, to the Contracting Officer to assure to assure compliance with AS 36.05.040, *Filing Schedule of Employees Wages Paid and Other Information*. The CONTRACTOR shall be responsible for the submission of certified copies of payrolls of all Subcontractors. The certification shall affirm that the payrolls are current and complete, that the wage rates contained therein are not less than the applicable rates referenced in these Contract Documents, and that the classification set forth for each laborer or mechanic conforms with the Work he performed. The CONTRACTOR and his Subcontractors shall attend all hearings and conferences and produce such books, papers, and documents all as requested by the Department of Labor. Should federal funds be involved, the appropriate federal agency shall also receive a copy of the CONTRACTOR's certified payrolls. Regardless of project funding source, copies of all certified payrolls supplied to the State Department of Labor by the CONTRACTOR shall be supplied also to the Project Manager upon request, including submittals made by, or on behalf of, subcontractors.
- 7.13.2 The following labor provisions shall also apply to this Contract:
- a. The CONTRACTOR and his Subcontractors shall pay all employees unconditionally and not less than once a week;
 - b. wages may not be less than those stated under AS 36.05.010, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors;
 - c. the scale of wages to be paid shall be posted by the CONTRACTOR in a prominent and easily accessible place at the site of the Work;
 - d. the DEPARTMENT shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the CONTRACTOR or Subcontractors the difference between
 1. the rates of wages required by the Contract to be paid laborers, mechanics, or field surveyors on the Work, and
 2. the rates of wages in fact received by laborers, mechanics or field surveyors.

7.13.3 Within three calendar days of award of a construction contract, the CONTRACTOR shall file a "Notice of Work" with the Department of Labor and shall pay all related fees. The Contracting Officer will not issue Notice to Proceed to the CONTRACTOR until such notice and fees have been paid to the State Department of Labor. Failure of the CONTRACTOR to file the Notice of Work and pay fees within this timeframe shall not constitute grounds for an extension of contract time or adjustment of contract price.

7.14 Overtime Work Hours and Compensation:

Pursuant to 40 U.S.C. 327-330 and AS 23.10.060-.110, the CONTRACTOR shall not require nor permit any laborer or mechanic in any workweek in which he is employed on any Work under this Contract to work in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek on Work subject to the provisions of the *Contract Work Hours and Safety Standards Act* unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all such hours worked in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek whichever is the greater number of overtime hours. In the event of any violation of this provision, the CONTRACTOR shall be liable to any affected employee for any amounts due and penalties and to the DEPARTMENT for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of this provision in the sum of \$10.00 for each Calendar Day on which such employee was required or permitted to be employed on such Work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by this paragraph.

ARTICLE 8 -OTHER WORK

8.1 Related Work at Site:

- 8.1.1 The DEPARTMENT reserves the right at any time to contract for and perform other or additional work on or near the Work covered by the Contract.
- 8.1.2 When separate contracts are let within the limits of the Project, the CONTRACTOR shall conduct his Work so as not to interfere with or hinder the Work being performed by other contractors. The CONTRACTOR when working on the same Project with other contractors shall cooperate with such other contractors. The CONTRACTOR shall join his Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of others.
- 8.1.3 If the fact that other such work is to be performed is identified or shown in the Contract Documents the CONTRACTOR shall assume all liability, financial or otherwise, in connection with this Contract and indemnify and save harmless the DEPARTMENT from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the CONTRACTOR because of the presence and operations of other contractors.
- 8.1.4 If the fact that such other work is to be performed was not identified or shown in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work. If the CONTRACTOR believes that such performance will require an increase in Contract Price or Contract Time, the CONTRACTOR shall notify the Contracting Officer of such required increase within fifteen (15) calendar days following receipt of the Contracting Officer's notice. Should the Contracting Officer find such increase(s) to be justified, a Change Order will be executed.

8.2 Access, Cutting, and Patching:

The CONTRACTOR shall afford each utility owner and any other contractor who is a party to such a direct contract with the DEPARTMENT (or the DEPARTMENT, if the DEPARTMENT is performing the additional work with the DEPARTMENT's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with the Work of others. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, the CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter such other work with the written consent of the Contracting Officer. The duties and responsibilities of the CONTRACTOR under this paragraph are for the benefit of other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the DEPARTMENT and other contractors.

8.3 Defective Work by Others:

If any part of the CONTRACTOR's Work depends for proper execution or results upon the Work of any such other contractor, utility owner, or the DEPARTMENT, the CONTRACTOR shall inspect and promptly report to the Contracting Officer in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to so report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in the other work.

8.4 Coordination:

If the DEPARTMENT contracts with others for the performance of other work at the site, Contracting Officer will have authority and responsibility for coordination of the activities among the various prime contractors.

ARTICLE 9- CHANGES

9.1 DEPARTMENT's Right to Change:

Without invalidating the Contract and without notice to any Surety, the DEPARTMENT may, at any time or from time to time, order additions, deletions or revisions in the Work within the general scope of the Contract, including but not limited to changes:

- 9.1.1 In the Contract Documents;
- 9.1.2 In the method or manner of performance of the Work;
- 9.1.3 In State-furnished facilities, equipment, materials, services, or site;
- 9.1.4 Directing acceleration in the performance of the Work

9.2 Authorization of Changes within the General Scope:

Additions, deletions, or revisions in the Work within the general scope of the Contract as specified in 9.1 shall be authorized by one or more of following ways:

- 9.2.1 Directive (pursuant to paragraph 9.3)
- 9.2.2 A Change Order (pursuant to paragraph 9.4)
- 9.2.3 DEPARTMENT's acceptance of Shop Drawing variations from the Contract Documents as specifically identified by the CONTRACTOR as required by paragraph 6.20.4.

9.3 Directive:

- 9.3.1 The Contracting Officer shall provide written clarification or interpretation of the Contract Documents (Pursuant to paragraph 3.6).
- 9.3.2 The Contracting Officer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents.
- 9.3.3 The Contracting Officer may order the Contractor to correct Defective Work or methods which are not in conformance with the Contract Documents.
- 9.3.4 The Contracting Officer may direct the commencement or suspension of Work or emergency related Work (as provided in paragraph 6.19).
- 9.3.5 Upon the issuance of a Directive to the CONTRACTOR by the Contracting Officer, the CONTRACTOR shall proceed with the performance of the Work as prescribed by such Directive.
- 9.3.6 If the CONTRACTOR believes that the changes noted in a Directive may cause an increase in the Contract Price or an extension of Contract Time, the CONTRACTOR shall immediately provide written notice to the Contracting Officer depicting such increases before proceeding with the Directive, except in the case of an emergency. If the Contracting Officer finds the increase in Contract Price or the extension of Contract Time justified, a Change Order will be issued. If however, the Contracting Officer does not find that a Change Order is justified, the Contracting Officer may direct the CONTRACTOR to proceed with the Work. The CONTRACTOR shall cooperate with the Contracting Officer in keeping complete daily records of the cost of such Work. If a Change Order is ultimately determined to be justified, in the absence of agreed prices and unit prices, payment for such Work will be made on a "cost of the Work basis" as provided in 10.4

9.4 Change Order:

A change in Contract Time, Contract Price, or responsibility may be made for changes within the scope of the Work by Change Order. Upon receipt of an executed Change Order, the CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents except as otherwise specifically provided. Changes in Contract Price and Contract Time shall be made in accordance with Articles 10 and 11. A Change Order shall be considered executed when it is signed by the DEPARTMENT.

9.5 Shop Drawing Variations:

Variations by shop drawings shall only be eligible for consideration under 9.4 when the conditions affecting the price, time, or responsibility are identified by the CONTRACTOR in writing and a request for a Change Order is submitted as per 6.20.4.

9.6 Changes Outside the General Scope; Supplemental Agreement:

Any change which is outside the general scope of the Contract, as determined by the Contracting Officer, must be authorized by a Supplemental Agreement signed by the appropriate representatives of the DEPARTMENT and the CONTRACTOR.

9.7 Unauthorized Work:

The CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in this Article 9, except in the case of an emergency as provided in paragraph 6.19 and except in the case of uncovering Work as provided in paragraph 12.4.2.

9.8 Notification of Surety:

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any bond to be given to a Surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable bond will be adjusted accordingly.

9.9 Differing Site Conditions:

9.9.1 The CONTRACTOR shall promptly, and before such conditions are disturbed (except in an emergency as permitted by paragraph 6.19), notify the Contracting Officer in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract, and which could not have been discovered by a careful examination of the site, 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 Contracting Officer shall promptly investigate the conditions, and if the Contracting Officer finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or time required for, performance of this Contract, an adjustment shall be made and the Contract modified in writing accordingly. An adjustment in compensation shall be computed under Article 10.

9.9.2 Any claim for additional compensation by the CONTRACTOR under this clause shall be made in accordance with Article 15. In the event that the Contracting Officer and the CONTRACTOR are unable to reach an agreement concerning an alleged differing site condition, the CONTRACTOR will be required to keep an accurate and detailed record which will indicate the actual "cost of the Work" done under the alleged differing site condition. Failure to keep such a record shall be a bar to any recovery by reason of such alleged differing site conditions. The Contracting Officer shall be given the opportunity to supervise and check the keeping of such records.

9.10 Interim Work Authorization:

An Interim Work Authorization may be used to establish a change within the scope of the Work; however, only a Change Order shall establish associated changes in Contract Time and Price. Work authorized by Interim Work Authorization shall be converted to a Change Order. The basis of payment shall be as stated in the Interim Work Authorization, unless it states that the basis of payment has not been established and is to be negotiated, in which case the Cost of the Work shall be documented pursuant to Article 10.4, to establish a basis for negotiating a lump sum price for the Change Order.

ARTICLE 10- CONTRACT PRICE; COMPUTATION AND CHANGE

10.1 Contract Price:

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order or Supplemental Agreement.

10.2 Claim for Price Change:

Any claim for an increase or decrease in the Contract Price shall be submitted in accordance with the terms of Article 15, and shall not be allowed unless notice requirements of this Contract have been met.

10.3 Change Order Price Determination:

The value of any Work covered by a Change Order for an increase or decrease in the Contract Price shall be determined in one of the following ways:

- 10.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of subparagraphs 10.9.1 through 10.9.3, inclusive).
- 10.3.2 By mutual acceptance of a lump sum (fixed price) which includes overhead and profit. The lump sum (fixed price) shall be negotiated based on the estimated "cost of the Work" in accordance with Articles 10.4 and 10.5. The following maximum rates of cost markup (to cover both overhead and profit of the CONTRACTOR) shall be used in the negotiation of a Lump Sum Change Order:
- a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee shall be twenty percent;
 - b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's fee shall be ten percent; and if a subcontract is on the basis of "cost of the work" plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit for itself and all Subcontractors and multiple tiers thereof shall be fifteen percent of the cost incurred by the subcontractor actually performing the Work;
 - c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
 - d. The amount of credit to be allowed by the CONTRACTOR to the DEPARTMENT for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's fee by an amount equal to twenty percent of the net decrease; and
 - e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 10.3.2.a through 10.3.2.d, inclusive
- 10.3.3 When 10.3.1 and 10.3.2 are inapplicable, on the basis of the "cost of the Work" (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 10.6).
- 10.3.4 Before a Change Order or Supplemental Agreement is Approved, the CONTRACTOR shall submit cost or pricing data regarding the changed or extra Work. The CONTRACTOR shall certify that the data submitted is, to his best knowledge and belief, accurate, complete and current as of a mutually determined specified date and that such data will continue to be accurate and complete during the performance of the changed or extra Work.

10.4 Cost of the Work:

The term "cost of the Work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by the DEPARTMENT, such costs shall be in amount no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in subparagraph 10.5:

- 10.4.1 Payroll costs for employees in the direct employ of the CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by the DEPARTMENT and the CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include manual workers up through the level of foreman but shall not include general foremen, superintendents, and non-manual employees. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays shall be included in the above to the extent authorized by the DEPARTMENT.
- 10.4.2 Cost of all materials and equipment furnished and incorporated or consumed in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to the CONTRACTOR unless the DEPARTMENT deposits funds with the CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to the DEPARTMENT. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the DEPARTMENT, and the CONTRACTOR shall make provisions so that they may be obtained.
- 10.4.3 Payments made by the CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by the DEPARTMENT, CONTRACTOR shall obtain competitive quotes from Subcontractors or Suppliers acceptable to the CONTRACTOR and shall deliver such quotes to the DEPARTMENT who will then determine which quotes will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of "cost of the Work" plus a fee, the Subcontractor' "cost of the Work" shall be determined in the same manner as the CONTRACTOR's "cost of work" as described in paragraphs 10.4 through 10.5; and the Subcontractor's fee shall be established as provided for under subparagraph 10.6.2 clause b. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.
- 10.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, and surveyors) employed for services necessary for the completion of the Work.
- 10.4.5 Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel and subsistence expenses of the CONTRACTOR's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the Workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of the CONTRACTOR.
 - c. Rentals of all construction equipment and machinery and the parts thereof whether rented from the CONTRACTOR or others in accordance with rental agreements Approved by the DEPARTMENT and the costs of transportation, loading, unloading, installation, dismantling and removal thereof- all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

For any machinery or special equipment (other than small tools) which has been authorized by the Project

Manager, the CONTRACTOR shall receive the rental rates in the current edition and appropriate volume of the "Rental Rate Blue Book for Construction Equipment", published by Dataquest, Inc., 1290 Ridder Park Drive, San Jose, CA 95131. Hourly rental rates shall be determined as follows:

The established hourly rental rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

The adjusted monthly rate is that resulting from application of the rate adjustment formula in order to eliminate replacement cost allowances in machine depreciation and contingency cost allowances.

Attachments shall not be included unless required for the time and materials work.

For equipment not listed in The Blue Book, the CONTRACTOR shall receive a rental rate as agreed upon before such work is begun. If agreement cannot be reached, the DEPARTMENT reserves the right to establish a rate based on similar equipment in the Blue Book or prevailing commercial rates in the area.

These rates shall apply for equipment used during the CONTRACTOR's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the CONTRACTOR's normal work or on time and materials, and either on single or multiple shifts, an overtime rate, computed as follows, shall apply:

The hourly overtime rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

Equipment which must be rented or leased specifically for work required under this section shall be authorized in writing by the Project Manager. The CONTRACTOR shall be paid invoice price plus 15%.

When it is necessary to obtain equipment from sources beyond the project limits exclusively for time and materials, work, the actual cost of transferring the equipment to the site of the Work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the CONTRACTOR hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. In the event that the equipment is transferred under its own power, the moving allowance will be limited to one-half of the normal hourly rental rate plus operator's wages. In the event that the move-out is to a different location, payment will in no instance exceed the amount of the move-in. Move-in allowance shall not be made for equipment brought to the project for time and materials work which is subsequently retained on the project and utilized for completion of contract items, camp maintenance, or related work. .

Equipment ordered to be on a stand-by basis shall be paid for at the stand-by rental rate for the number of hours in the CONTRACTOR'S normal work shift, but not to exceed 8 hours per day. The stand-by rental rate shall be computed as follows:

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

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

The equipment rates as determined above shall be full compensation, including overhead and profit, 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 costs. Cost of repairs, both major and minor, as well as charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

- d. Sales, consumer, use or similar taxes related to the Work, and for which the CONTRACTOR is liable, imposed by Regulatory Requirements.
- e. Deposits lost for causes other than negligence of the CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by the CONTRACTOR in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of the CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and Approval of the DEPARTMENT. No such losses, damages and expenses shall be included in the "cost of the Work" for the purpose of determining the CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and the CONTRACTOR is placed in charge thereof, the CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraphs 10.6.2.a and 10.6.2.b.
- g. The cost of utilities, fuel and sanitary facilities at the site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.
- i. Cost of premiums for additional bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by the DEPARTMENT in accordance with Article 5.

10.5 Excluded Costs:

The term "cost of the Work" shall not include any of the following:

- 10.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agency, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 all of which are to be considered administrative costs covered by the CONTRACTOR's fee.
- 10.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.
- 10.5.3 Any part of CONTRACTOR's capital expenses including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- 10.5.4 Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5. 1 above).
- 10.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- 10.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 CONTRACTOR's Fee:

The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows.

- 10.6.1 A mutually acceptable fixed fee; or if none can be agreed upon.
- 10.6.2 A fee based on the following percentages of the various portions of the "cost of the Work":
 - a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee shall be fifteen percent;
 - b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's fee shall be ten percent; and if a subcontract is on the basis of "cost of the Work" plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit for itself and all Subcontractors and multiple tiers thereof shall be fifteen percent of the cost incurred by the subcontractor actually performing the Work;
 - c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
 - d. The amount of credit to be allowed by the CONTRACTOR to the DEPARTMENT for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's fee by an amount equal to fifteen percent of the net decrease; and
 - e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.a through 10.6.2.d, inclusive.

10.7 Cost Breakdown:

Whenever the cost of any Work is to be determined pursuant to paragraphs 10.4 and 10.5, the CONTRACTOR will submit in a form acceptable to the DEPARTMENT an itemized cost breakdown together with supporting data.

10.8 Cash Allowances:

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to the Contracting Officer. CONTRACTOR agrees that:

- 10.8.1 The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and
- 10.8.2 CONTRACTOR's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due the CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work:

- 10.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR will be made by the

DEPARTMENT in accordance with paragraph 10.10.

- 10.9.2 Each unit price will be deemed to include an amount considered by the CONTRACTOR to be adequate to cover the CONTRACTOR's overhead and profit for each separately identified item. If the "Basis of Payment" clause in the Contract Documents relating to any unit price in the bid schedule requires that the said unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Contract Documents.
- 10.9.3 Payment to the CONTRACTOR shall be made only for the actual quantities of Work performed and accepted or materials furnished, in conformance with the Contract Documents. When the accepted quantities of Work or materials vary from the quantities stated in the bid schedule, or change documents, the CONTRACTOR shall accept as payment in full, payment at the stated unit prices for the accepted quantities of Work and materials furnished, completed and accepted; except as provided below:
- a. When the quantity of Work to be done or material to be furnished under any item, for which the total cost of the item exceeds 10% of the total Contract Price, is increased by more than 25 percent of the quantity stated in the bid schedule, or change documents, either party to the Contract, upon demand, shall be entitled to an equitable unit price adjustment on that portion of the Work above 125 percent of the quantity stated in the bid schedule.
 - b. When the quantity of Work to be done or material to be furnished under any major item, for which the total cost of the item exceeds 10% of the total Contract Price, is decreased by more than 25 percent of the quantity stated in the bid schedule, or change documents either party to the Contract, upon demand, shall be entitled to an equitable price adjustment for the quantity of Work performed or material furnished, limited to a total payment of not more than 75 percent of the amount originally bid for the item.

10.10 Determinations for Unit Prices:

The Contracting Officer will determine the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR. The Contracting Officer will review with the CONTRACTOR preliminary determinations on such matters before finalizing the costs and quantities on the Schedule of Values. The Contracting Officer's acknowledgment thereof will be final and binding on the CONTRACTOR, unless, within 10 days after the date of any such decisions, the CONTRACTOR delivers to the Contracting Officer written notice of intention to appeal from such a decision.

ARTICLE 11- CONTRACT TIME; COMPUTATION AND CHANGE

11.1 Commencement of Contract Time; Notice to Proceed:

The Contract Time will commence to run on the day indicated in the Notice to Proceed.

11.2 Starting the Work:

No Work on Contract items shall be performed before the effective date of the Notice to Proceed. The CONTRACTOR shall notify the Contracting Officer at least 24 hours in advance of the time actual construction operations will begin. The CONTRACTOR may request a limited Notice to Proceed after Award has been made, to permit them to order long lead materials which could cause delays in Project completion. However, granting is within the sole discretion of the Contracting Officer, and refusal or failure to grant a limited Notice to Proceed shall not be a basis for claiming for delay, extension of time, or alteration of price.

11.3 Computation of Contract Time:

11.3.1 When the Contract Time is specified on a Calendar Day basis, all Work under the Contract shall be completed within the number of Calendar Days specified. The count of Contract Time begins on the day following receipt of the Notice to Proceed by the CONTRACTOR, if no starting day is stipulated therein.

Calendar Days shall continue to be counted against Contract Time until and including the date of Substantial Completion of the Work.

11.3.2 When the Contract completion time is specified as a fixed calendar date, it shall be the date of Substantial Completion.

11.3.3 The Contract Time shall be as stated on form 25D-9, Proposal.

11.4 Time Change:

The Contract Time may only be changed by a Change Order or Supplemental Agreement.

11.5 Extension Due to Delays:

The right of the CONTRACTOR to proceed shall not be terminated nor the CONTRACTOR charged with liquidated or actual damages because of delays to the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to the following: acts of God or of the public enemy, acts of the DEPARTMENT in its contractual capacity, acts of another contractor in the performance of a contract with the DEPARTMENT, floods, fires, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and delays of Subcontractors or Suppliers due to such causes. Any delay in receipt of materials on the site, caused by other than one of the specifically mentioned occurrences above, does not of itself justify a time extension, provided that the CONTRACTOR shall within twenty four (24) hours from the beginning of any such delay (unless the Contracting Officer shall grant a further period of the time prior to the date of final settlement of the Contract), notify the Contracting Officer in writing of the cause of delay. The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when the findings of fact justify such an extension.

11.6 Essence of Contract:

All time limits stated in the Contract Documents are of the essence of the Contract.

11.7 Reasonable Completion Time:

It is expressly understood and agreed by and between the CONTRACTOR and the DEPARTMENT that the date of

beginning and the time for Substantial Completion of the Work described herein are reasonable times for the completion of the Work.

11.8 Delay Damages:

Whether or not the CONTRACTOR's right to proceed with the Work is terminated, he and his Sureties shall be liable for damages resulting from his refusal or failure to complete the Work within the specified time.

Liquidated and actual damages for delay shall be paid by the CONTRACTOR or his Surety to the DEPARTMENT in the amount as specified in the Supplementary Conditions for each Calendar Day the completion of the Work or any part thereof is delayed beyond the time required by the Contract, or any extension thereof. If a listing of incidents resulting from a delay and expected to give rise to actual or liquidated damages is not established by the Contract Documents, then the CONTRACTOR and his Surety shall be liable to the DEPARTMENT for any actual damages occasioned by such delay. The CONTRACTOR acknowledges that the liquidated damages established herein are not a penalty but rather constitute an estimate of damages that the DEPARTMENT will sustain by reason of delayed completion. These liquidated and actual damages are intended as compensation for losses anticipated to arise, and include those items enumerated in the Supplementary Conditions.

These damages will continue to run both before and after termination in the event of default termination. These liquidated damages do not cover excess costs of completion or DEPARTMENT costs, fees, and charges related to procurement. If a default termination occurs, the CONTRACTOR or his Surety shall pay in addition to these damages, all excess costs and expenses related to completion as provided by Article 14.2.5.

ARTICLE 12 - QUALITY ASSURANCE

12.1 Warranty and Guaranty:

The CONTRACTOR warrants and guarantees to the DEPARTMENT that all Work will be in accordance with the Contract Documents and will not be Defective. Prompt notice of all defects shall be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected or accepted as provided for in this article.

12.2 Access to Work:

The DEPARTMENT and the DEPARTMENT's representatives, testing agencies and governmental agencies with jurisdiction interests will have access to the Work at reasonable times for their observation, inspecting and testing. The CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections:

- 12.3.1 The CONTRACTOR shall give the Contracting Officer timely notice of readiness of the Work for all required inspections, tests or Approvals.
- 12.3.2 If Regulatory Requirements of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, the CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish the Contracting Officer the required certificates of inspection, testing or approval. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with DEPARTMENT's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for Approval prior to the CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by the CONTRACTOR. The DEPARTMENT may perform additional tests and inspections which it deems necessary to insure quality control. All such failed tests or inspections shall be at the CONTRACTOR's expense.
- 12.3.4 If any Work (including the Work of others) that is to be inspected, tested or approved is covered without written concurrence of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the Contracting Officer timely notice of CONTRACTOR's intention to cover the same and the Contracting Officer has not acted with reasonable promptness in response to such notice.
- 12.3.5 Neither observations nor inspections, tests or Approvals by the DEPARTMENT or others shall relieve the CONTRACTOR from the CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

12.4 Uncovering Work:

- 12.4.1 If any Work is covered contrary to the written request of the Contracting Officer, it must, if requested by the Contracting Officer, be uncovered for the Contracting Officer's observation and replaced at the CONTRACTOR's expense.

12.4.2 If the Contracting Officer considers it necessary or advisable that covered Work be observed inspected or tested, the CONTRACTOR, at the Contracting Officer's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Contracting Officer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, the CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. If, however, such Work is not found to be Defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

12.5 DEPARTMENT May Stop the Work:

If the Work is Defective, or the CONTRACTOR fails to supply suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Contracting Officer may order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Contracting Officer to stop the Work shall not give rise to any duty on the part of the Contracting Officer to exercise this right for the benefit of the CONTRACTOR or any other party.

12.6 Correction or Removal of Defective Work:

If required by the Contracting Officer, the CONTRACTOR shall promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Contracting Officer, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. The CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other-professionals) made necessary thereby.

12.7 One Year Correction Period:

If within one year after the date of Substantial Completion of the relevant portion of the Work or such longer period of time as may be prescribed by Regulatory Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be Defective, the CONTRACTOR shall promptly, without cost to the DEPARTMENT and in accordance with the Contracting Officer's written instructions, either correct such Defective Work, or, if it has been rejected by the Contracting Officer, remove it from the site and replace it with conforming Work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the DEPARTMENT may have the Defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by the CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service for the benefit of the DEPARTMENT before Substantial Completion of all the Work, the correction period for that item may begin on an earlier date if so provided in the Specifications or by Change Order. Provisions of this paragraph are not intended to shorten the statute of limitations for bringing an action.

12.8 Acceptance of Defective Work:

Instead of requiring correction or removal and replacement of Defective Work, the Contracting Officer may accept Defective Work, the CONTRACTOR shall bear all direct, indirect and consequential costs attributable to the Contracting Officer's evaluation of and determination to accept such Defective Work (costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. If the DEPARTMENT has already made final payment to the CONTRACTOR, an appropriate amount shall be paid by the CONTRACTOR or his Surety to the DEPARTMENT.

12.9 DEPARTMENT May Correct Defective Work:

If the CONTRACTOR fails within a reasonable time after written notice from the Contracting Officer to proceed to correct Defective Work or to remove and replace rejected Work as required by the Contracting Officer in accordance with paragraph 12.6, or if the CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the DEPARTMENT may, after 7 days' written notice to the CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph the DEPARTMENT shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the Contracting Officer may exclude the CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend the CONTRACTOR's services related thereto, take possession of the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials-and equipment stored at the site or approved remote storage sites or for which the DEPARTMENT has paid the CONTRACTOR but which are stored elsewhere. The CONTRACTOR shall allow the Contracting Officer and his authorized representatives such access to the site as may be necessary to enable the Contracting Officer to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of the DEPARTMENT in exercising such rights and remedies will be charged against the CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the DEPARTMENT shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the CONTRACTOR's Defective Work. The CONTRACTOR shall not be allowed an extension of time because of any delay in performance of the Work attributable to the exercise, by the Contracting Officer, of the DEPARTMENT's rights and remedies hereunder.

ARTICLE 13 -PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values:

The Schedule of Values established as provided in paragraph 6.6 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Contracting Officer. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Preliminary Payments:

Upon approval of the Schedule of Values the CONTRACTOR may be paid for direct costs substantiated by paid invoices and other prerequisite documents required by the General Requirements. Direct costs shall include the cost of bonds, insurance, approved materials stored on the site or at approved remote storage sites, deposits required by a Supplier prior to fabricating materials, and other approved direct mobilization costs substantiated as indicated above. These payments shall be included as a part of the total Contract Price as stated in the Contract.

13.3 Application for Progress Payment:

The CONTRACTOR shall submit to the Contracting Officer for review an Application for Payment filled out and signed by the CONTRACTOR covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents. Progress payments will be made as the Work progresses on a monthly basis.

13.4 Review of Applications for Progress Payment:

Contracting Officer will either indicate in writing a recommendation of payment or return the Application for Payment to the CONTRACTOR indicating in writing the Contracting Officer's reasons for refusing to recommend payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the Application for Payment.

13.5 Stored Materials and Equipment:

If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, paid invoice or other documentation warranting that the DEPARTMENT has received the materials and equipment free and clear of all charges, security interests and encumbrances and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the DEPARTMENT's interest therein, all of which will be Satisfactory to the Contracting Officer. No payment will be made for perishable materials that could be rendered useless because of long storage periods. No progress payment will be made for living plant materials until planted.

13.6 CONTRACTOR's Warranty of Title:

The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the DEPARTMENT no later than the time of payment free and clear of any claims, liens, security interests and further obligations.

13.7 Withholding of Payments:

The DEPARTMENT may withhold or refuse payment for any of the reasons listed below provided it gives written notice of its intent to withhold and of the basis for withholding:

- 13.7.1 The Work is Defective, or completed Work has been damaged requiring correction or replacement, or has been installed without Approval of Shop Drawings, or by an unapproved Subcontractor, or for unsuitable storage of materials and equipment.

- 13.7.2 The Contract Price has been reduced by Change Order,
- 13.7.3 The DEPARTMENT has been required to correct Defective Work or complete Work in accordance with paragraph 12.9.
- 13.7.4 The DEPARTMENT's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1. a through 14.2.1.k inclusive.
- 13.7.5 Claims have been made against the DEPARTMENT or against the funds held by the DEPARTMENT on account of the CONTRACTOR's actions or inactions in performing this Contract, or there are other items entitling the DEPARTMENT to a set off.
- 13.7.6 Subsequently discovered evidence or the results of subsequent inspections or test, nullify any previous payments for reasons stated in subparagraphs 13.7.1 through 13.7.5.
- 13.7.7 The CONTRACTOR has failed to fulfill or is in violation of any of his obligations under any provision of this Contract.

13.8 Retainage:

At any time the DEPARTMENT finds that satisfactory progress is not being made it may in addition to the amounts withheld under 13.7 retain a maximum amount equal to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Contracting Officer finds that satisfactory progress is being made.

13.9 Request for Release of Funds:

If the CONTRACTOR believes the basis for withholding is invalid or no longer exists, immediate written notice of the facts and Contract provisions on which the CONTRACTOR relies, shall be given to the DEPARTMENT, together with a request for release of funds and adequate documentary evidence proving that the problem has been cured. In the case of withholding which has occurred at the request of the Department of Labor, the CONTRACTOR shall provide a letter from the Department of Labor stating that withholding is no longer requested. Following such a submittal by the CONTRACTOR, the DEPARTMENT shall have a reasonable time to investigate and verify the facts and seek additional assurances before determining whether release of withheld payments is justified.

13.10 Substantial Completion:

When the CONTRACTOR considers the Work ready for its intended use the CONTRACTOR shall notify the Contracting Officer in writing that the Work or a portion of Work which has been specifically identified in the Contract Documents is substantially complete (except for items specifically listed by the CONTRACTOR as incomplete) and request that the DEPARTMENT issue a certificate of Substantial Completion. Within a reasonable time thereafter, the Contracting Officer, the CONTRACTOR and appropriate Consultant(s) shall make an inspection of the Work to determine the status of completion. If the Contracting Officer does not consider the Work substantially complete, the Contracting Officer will notify the CONTRACTOR in writing giving the reasons therefor. If the Contracting Officer considers the Work substantially complete, the Contracting Officer will within fourteen days execute and deliver to the CONTRACTOR a certificate of Substantial Completion with tentative list of items to be completed or corrected. At the time of delivery of the certificate of Substantial Completion the Contracting Officer will deliver to the CONTRACTOR a written division of responsibilities pending Final Completion with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties which shall be consistent with the terms of the Contract Documents.

The DEPARTMENT shall be responsible for all DEPARTMENT costs resulting from the initial inspection and the first re-inspection, the CONTRACTOR shall pay all costs incurred by the DEPARTMENT resulting from re-

inspections, thereafter.

13.11 Access Following Substantial Completion:

The DEPARTMENT shall have the right to exclude the CONTRACTOR from the Work after the date of Substantial Completion, but the DEPARTMENT shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

13.12 Final Inspection:

Upon written notice from the CONTRACTOR that the entire Work or an agreed portion thereof is complete, the Contracting Officer will make a final inspection with the CONTRACTOR and appropriate Consultant(s) and will notify the CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or Defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies. The CONTRACTOR shall pay for all costs incurred by the DEPARTMENT resulting from re-inspections.

13.13 Final Completion and Application for Payment:

After the CONTRACTOR has completed all such corrections to the satisfaction of the Contracting Officer and delivered all schedules, guarantees, bonds, certificates of payment to all laborers, Subcontractors and Suppliers, and other documents - all as required by the Contract Documents; and after the Contracting Officer has indicated in writing that the Work has met the requirements for Final Completion, and subject to the provisions of paragraph 13.18, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all remaining certificates, warranties, guarantees, releases, affidavits, and other documentation required by the Contract Documents.

13.14 Final Payment:

13.14.1 If on the basis of the Contracting Officer's observation of the Work during construction and final inspection, and the Contracting Officer's review of the final Application for Payment and accompanying documentation- all as required by the Contract Documents; and the Contracting Officer is satisfied that the Work has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the DEPARTMENT will process final Application for Payment. Otherwise, the Contracting Officer will return the Application for Payment to the CONTRACTOR, indicating in writing the reasons for refusing to process final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the final Application for Payment.

13.14.2 If, through no fault of the CONTRACTOR, Final Completion of the Work is significantly delayed, the Contracting Officer shall, upon receipt of the CONTRACTOR's final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by the DEPARTMENT for Work not fully completed or corrected is less than the retainage provided for in paragraph 13.9, and if bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the CONTRACTOR to the DEPARTMENT with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.15 Final Acceptance:

Following certification of payment of payroll and revenue taxes, and final payment to the CONTRACTOR, the DEPARTMENT will issue a letter of Final Acceptance, releasing the CONTRACTOR from further obligations under the Contract, except as provided in paragraph 13.17.

13.16 CONTRACTOR's Continuing Obligation:

The CONTRACTOR's obligation to perform and complete the Work and pay all laborers, Subcontractors, and materialmen in accordance with the Contract Documents shall be absolute. Neither any progress or final payment by the DEPARTMENT, nor the issuance of a certificate of Substantial Completion, nor any use or occupancy of the Work or any part thereof by the DEPARTMENT or Using Agency, nor any act of acceptance by the DEPARTMENT nor any failure to do so, nor any review and Approval of a Shop Drawing or sample submission, nor any correction of Defective Work by the DEPARTMENT will constitute an acceptance of Work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

When it is anticipated that restarting, testing, adjusting, or balancing of systems will be required following Final Acceptance and said requirements are noted in Section(s) 01650, such Work shall constitute a continuing obligation under the Contract.

13.17 Waiver of Claims by CONTRACTOR:

The making and acceptance of final payment will constitute a waiver of all claims by the CONTRACTOR against the DEPARTMENT other than those previously made in writing and still unsettled.

13.18 No Waiver of Legal Rights:

The DEPARTMENT shall not be precluded or be estopped by any payment, measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the Work performed and materials furnished by the CONTRACTOR, nor from showing that any payment, measurement, estimate or certificate is untrue or is incorrectly made, or that the Work or materials are Defective. The DEPARTMENT shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the CONTRACTOR or his Sureties, or both, such damages as it may sustain by reason of his failure to comply with requirements of the Contract Documents. Neither the acceptance by the DEPARTMENT, or any representative of the DEPARTMENT, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of the Contract Time, nor any possession taken by the DEPARTMENT, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver by the DEPARTMENT of any breach of the Contract shall not be held to be a waiver of any other subsequent breach.

ARTICLE 14- SUSPENSION OF WORK, DEFAULT AND TERMINATION

14.1 DEPARTMENT May Suspend Work:

- 14.1.1 The DEPARTMENT may, at any time, suspend the Work or any portion thereof by notice in writing to the CONTRACTOR. If the Work is suspended without cause the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the CONTRACTOR makes an Approved claim therefor as provided in Article 15. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that suspension is due to the fault or negligence of the CONTRACTOR, or that suspension is necessary for Contract compliance, or that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR.
- 14.1.2 In case of suspension of Work, the CONTRACTOR shall be responsible for preventing damage to or loss of any of the Work already performed and of all materials whether stored on or off the site or Approved remote storage sites.

14.2 Default of Contract:

- 14.2.1 The Contracting Officer may give the CONTRACTOR and its surety a written Notice to Cure Default if the CONTRACTOR:
- a. fails to begin work in the time specified,
 - b. fails to use sufficient resources to assure prompt completion of the Work,
 - c. performs the Work unsuitably or neglects or refuses to remove and replace rejected materials or work,
 - d. stops work,
 - e. fails to resume stopped work after receiving notice to do so,
 - f. becomes insolvent (except that if the CONTRACTOR declares bankruptcy, termination will be under Title 11 US Code 362 and/or 365. The CONTRACTOR'S bankruptcy does not relieve the surety of any obligations to assume the Contract and complete the Work in a timely manner.
 - g. Allows any final judgment to stand against him unsatisfied for period of 60 days, or
 - h. Makes an assignment for the benefit of creditors without the consent of the Contracting Officer, or
 - i. Disregards Regulatory Requirements of any public body having jurisdiction, or
 - j. Otherwise violates in any substantial way any provisions of the Contract Documents, or
 - k. fails to comply with Contract minimum wage payments or civil rights requirements, or
 - l. is a party to fraud, deception, misrepresentation , or
 - m. for any cause whatsoever, fails to carry on the Work in an acceptable manner.
- 14.2.2 The Notice to Cure Default will detail the conditions determined to be in default, the time within which to cure the default and may, in the Contracting Officer's discretion, specify the actions necessary to cure the default. Failure to cure the delay, neglect or default within the time specified in the Contracting Officer's written notice to cure authorizes the DEPARTMENT to terminate the contract. The Contracting Officer may allow more time to cure than originally stated in the Notice to Cure Default if he deems it to be in the best interests of the DEPARTMENT. The DEPARTMENT will provide the CONTRACTOR or its surety with a written Notice of Default Termination that details the default and the failure to cure it.
- 14.2.3 If the CONTRACTOR or its Surety, within the time specified in the above notice of default, shall not proceed in accordance therewith, then the DEPARTMENT may, upon written notification from the Contracting Officer of the fact of such delay, neglect or default and the CONTRACTOR's failure to comply with such notice, have full power and authority without violating the Contract, to take the prosecution of the Work out of the hands of the CONTRACTOR. The DEPARTMENT may terminate the services of the CONTRACTOR, exclude the CONTRACTOR from the site and take possession of the Work and of all the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be

used by the CONTRACTOR (without liability to the CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which the DEPARTMENT has paid the CONTRACTOR but which are stored elsewhere, and finish the Work as the DEPARTMENT may deem expedient. The DEPARTMENT may enter into an agreement for the completion of said Contract according to the terms and provisions thereof, or use such other methods that in the opinion of the Contracting Officer are required for the completion of said Contract in an acceptable manner.

- 14.2.4 The Contracting Officer may, by written notice to the CONTRACTOR and its Surety or its representative, transfer the employment of the Work from the CONTRACTOR to the Surety, or if the CONTRACTOR abandons the Work undertaken under the Contract, the Contracting Officer may, at its option with written notice to the Surety and without any written notice to the CONTRACTOR, transfer the employment for said Work directly to the Surety. The Surety shall submit its plan for completion of the Work, including any contracts or agreements with third parties for such completion, to the DEPARTMENT for approval prior to beginning completion of the Work. Approval of such contracts shall be in accordance with all applicable requirements and procedures for approval of subcontracts as stated in the Contract Documents.
- 14.2.5 After the notice of termination is issued, the DEPARTMENT may take over the Work and complete it by contract or otherwise and may take possession of and use materials, appliances, equipment or plant on the Work site necessary for completing the Work.
- 14.2.6 Rather than taking over the Work itself, the DEPARTMENT may transfer the obligation to perform the Work from the CONTRACTOR to its surety. The surety must submit its plan for completion of the Work, including any contracts or agreements with third parties for completion, to the DEPARTMENT for approval prior to beginning work. The surety must follow the Contract requirements for approval of subcontracts, except that the limitation on percent of work subcontracted will not apply.
- 14.2.7 On receipt of the transfer notice, the surety must take possession of all materials, tools, and appliances at the Work site, employ an appropriate work force, and complete the Contract work, as specified. The Contract specifications and requirements shall remain in effect. However the DEPARTMENT will make subsequent Contract payments directly to the Surety for work performed under the terms of the Contract. The CONTRACTOR shall forfeit any right to claim for the same work or any part thereof. The CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the Contract.
- 14.2.8 Upon receipt of the notice terminating the services of the CONTRACTOR, the Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the Work included under the Contract and employ by contract or otherwise any person or persons to finish the Work and provide the materials therefore, without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to the Surety, the Surety shall be paid in its own name on estimates covering Work subsequently performed under the terms of the Contract and according to the terms thereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.
- 14.2.9 If the Contract is terminated for default, the CONTRACTOR and the Surety shall be jointly and severally liable for damages for delay as provided by paragraph 11.8, and for the excess cost of completion, and all costs and expenses incurred by the DEPARTMENT in completing the Work or arranging for completion of the Work, including but not limited to costs of assessing the Work to be done, costs associated with advertising, soliciting or negotiating for bids or proposals for completion, and other procurement costs. Following termination the CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the Contract until the Work is fully finished and accepted, at which time if the unpaid balance exceeds the amount due the DEPARTMENT and any amounts due to persons for whose benefit the DEPARTMENT has withheld funds, such excess shall be paid by the DEPARTMENT to the CONTRACTOR. If the damages, costs, and expenses due the DEPARTMENT exceed the unpaid balance, the CONTRACTOR and its Surety shall pay the difference.
- 14.2.10 If, after notice of termination of the CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, or that termination was wrongful, the rights and obligations of the parties shall be determined in accordance with the clause providing for convenience termination.

14.3 Rights or Remedies:

Where the CONTRACTOR's services have been so terminated by the DEPARTMENT, the termination will not affect any rights or remedies of the DEPARTMENT against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due the CONTRACTOR by the DEPARTMENT will not release the CONTRACTOR from liability.

14.4 Convenience Termination:

14.4.1 The performance of the Work may be terminated by the DEPARTMENT in accordance with this section in whole or in part, whenever, for any reason the Contracting Officer shall determine that such termination is in the best interest of the DEPARTMENT. Any such termination shall be effected by-delivery to the CONTRACTOR of a Notice of Termination, specifying termination is for the convenience of the DEPARTMENT the extent to which performance of Work is terminated, and the date upon which such termination becomes effective.

14.4.2 Immediately upon receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the CONTRACTOR shall:

- a. Stop Work on the date and to the extent specified in the Notice of Termination;
- b. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work as is not terminated;
- c. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
- d. With the written Approval of the Contracting Officer, to the extent he may require, 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;
- e. Submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory exclusive of items the disposition of which had been directed or authorized by the Contracting Officer;
- f. Transfer to the Contracting Officer the completed or partially completed record drawings, Shop Drawings, information, and other property which, if the Contract had been completed, would be required to be furnished to the DEPARTMENT;
- g. Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to the Contract which is in the possession of the CONTRACTOR and in which the DEPARTMENT has or may acquire any interest.

The CONTRACTOR shall proceed immediately with the performance of the above obligations.

14.4.3 When the DEPARTMENT orders termination of the Work effective on a certain date, all Work in place as of that date will be paid for in accordance with Article 13 of the Contract. Materials required for completion and on hand but not incorporated in the Work will be paid for at invoice cost plus 15% with materials becoming the property of the DEPARTMENT- or the CONTRACTOR may retain title to the materials and be paid an agreed upon lump sum. Materials on order shall be cancelled, and the DEPARTMENT shall pay reasonable factory cancellation charges with the option of taking delivery of the materials in lieu of payment of cancellation charges. The CONTRACTOR shall be paid 10% of the cost; freight not included, of materials cancelled, and direct expenses only for CONTRACTOR chartered freight transport which cannot be cancellation without charges, to the extent that the CONTRACTOR can establish them. The extra costs due to cancellation of bonds and insurance and that part of job start-up and phase-out costs not amortized by the amount of Work accomplished shall be paid by the DEPARTMENT. Charges for loss of profit or consequential damages shall not be recoverable except as provided above.

- a. The following costs are not payable under a termination settlement agreement or Contracting Officer's determination of the termination claim:
 1. Loss of anticipated profits or consequential or compensatory damages

2. Unabsorbed home office overhead (also termed "General & Administrative Expense") related to ongoing business operations
 3. Bidding and project investigative costs
 4. Direct costs of repairing equipment to render it operable for use on the terminated work
- 14.4.4 The termination claim shall be submitted promptly, but in no event later than 90 days from the effective date of termination, unless extensions in writing are granted by the Contracting Officer upon written request of the CONTRACTOR made within the 90-day period. Upon failure of the CONTRACTOR to submit his termination claim within the time allowed, the Contracting Officer may determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall thereupon pay to the CONTRACTOR the amount so determined.
- 14.4.5 The CONTRACTOR and the Contracting Officer may agree upon whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or partial termination of Work pursuant to this section. The Contract shall be amended accordingly, and the CONTRACTOR shall be paid the agreed amount.
- 14.4.6 In the event of the failure of the CONTRACTOR and the Contracting Officer to agree in whole or in part, as provided heretofore, as to the amounts with respect to costs to be paid to the CONTRACTOR in connection with the termination of the Work the Contracting Officer shall determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall pay to the CONTRACTOR the amount determined as follows:
- a. All costs and expenses reimbursable in accordance with the Contract not previously paid to the CONTRACTOR for the performance of the Work prior to the effective date of the Notice of Termination;
 - b. So far as not included under "a" above, the cost of settling and paying claims arising out of the termination of the Work under subcontracts or orders which are properly chargeable to the terminated portions of the Contract;
 - c. So far as practicable, claims by the CONTRACTOR for idled or stand-by equipment shall be made as follows: Equipment claims will be reimbursed as follows:
 1. Contractor-owned equipment usage, based on the CONTRACTOR'S ownership and operating costs for each piece of equipment as determined from the CONTRACTOR'S accounting records. Under no circumstance, may the CONTRACTOR base equipment claims on published rental rates.
 2. Idle or stand-by time for Contractor-owned equipment, based on the CONTRACTOR'S internal ownership and depreciation costs. Idle or stand-by equipment time is limited to the actual period of time equipment is idle or on stand-by as a direct result of the termination, not to exceed 30 days. Operating expenses will not be included for payment of idle or stand-by equipment time.
 3. Rented equipment, based on reasonable, actual rental costs. Equipment leased under "capital leases" as defined in Financial Accounting Standard No. 13 will be considered Contractor-owned equipment. Equipment leased from an affiliate, division, subsidiary or other organization under common control with the CONTRACTOR will be considered Contractor-owned equipment, unless the lessor has an established record of leasing to unaffiliated lessees at competitive rates consistent with the rates the CONTRACTOR has agreed to pay and no more than forty percent of the lessor's leasing business, measured in dollars, is with organizations affiliated with the lessor.
- 14.4.7 The CONTRACTOR shall have the right of appeal under the DEPARTMENT's claim procedures, as defined in Article 15, for any determination made by the Contracting Officer, except if the CONTRACTOR has failed to submit his claim within the time provided and has failed to request extension of such time, CONTRACTOR shall have no such right of appeal. In arriving at the amount due the CONTRACTOR under this section, there shall be deducted:
- a. All previous payments made to the CONTRACTOR for the performance of Work under the Contract prior to termination;
 - b. Any claim for which the DEPARTMENT may have against the CONTRACTOR;
 - c. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the

CONTRACTOR or sold pursuant to the provisions of this section and not otherwise recovered by or credited to the DEPARTMENT; and,

- d. All progress payments made to the CONTRACTOR under the provisions of this section.
- 14.4.8 Where the Work has been terminated by the DEPARTMENT said termination shall not affect or terminate any of the rights of the DEPARTMENT against the CONTRACTOR or his Surety then existing or which may thereafter accrue because of such default. Any retention or payment of monies by the DEPARTMENT due to the CONTRACTOR under the terms of the Contract shall not release the CONTRACTOR or its Surety from liability.
- 14.4.9 The CONTRACTOR's termination claim may not include claims that pre dated the notice for termination for convenience. Those claims shall be prosecuted by the CONTRACTOR under Article 15.
- 14.4.10 The CONTRACTOR'S termination claim may not exceed the total dollar value of the contract as awarded plus agreed upon change orders less the amounts that have been paid for work completed.
- a. Unless otherwise provided for in the Contract Documents, or by applicable statute, the CONTRACTOR, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to the DEPARTMENT at all reasonable times at the office of the CONTRACTOR, all its books, records, documents, and other evidence bearing on the cost and expenses of the CONTRACTOR under his Contract and relating to the Work terminated hereunder.
 - b. Definitions. In this Subsection 108-1.09, the term "cost" and the term "expense" mean a monetary amount in U.S. Dollars actually incurred by the CONTRACTOR, actually reflected in its contemporaneously maintained accounting or other financial records and supported by original source documentation.
 - c. Cost Principles. The DEPARTMENT may use the federal cost principles at 48 CFR §§ 31.201-1 to 31.205-52 (or succeeding cost principles for fixed price contracts) as guidelines in determining allowable costs under this Subsection to the extent they are applicable to construction contracts and consistent with the specifications of this Contract. The provisions of this contract control where they are more restrictive than, or inconsistent with, these federal cost principles."

ARTICLE 15 - CLAIMS FOR ADJUSTMENT AND DISPUTES

15.1 Notification

- 15.1.1 The CONTRACTOR shall notify the DEPARTMENT in writing as soon as the CONTRACTOR becomes aware of any act or occurrence which may form the basis of a claim for additional compensation or an extension of Contract Time or of any dispute regarding a question of fact or interpretation of the Contract. The DEPARTMENT has no obligation to investigate any fact or occurrence that might form the basis of a claim or to provide any additional compensation or extension of Contract Time unless the CONTRACTOR has notified the DEPARTMENT in writing in a timely manner of all facts the CONTRACTOR believes form the basis for the claim.
- 15.1.2 If the CONTRACTOR believes that he is entitled to an extension of Contract Time, then the CONTRACTOR must state the contract section on which he basis his extension request, provide the DEPARTMENT with sufficient information to demonstrate that the CONTRACTOR has suffered excusable delay, and show the specific amount of time to which the CONTRACTOR is entitled. The DEPARTMENT will not grant an extension of Contract Time if the CONTRACTOR does not timely submit revised schedules under Section 13.10.
- 15.1.3 If the matter is not resolved by agreement within 7 days, the CONTRACTOR shall submit an Intent to Claim, in writing, to the DEPARTMENT within the next 14 days.
- 15.1.4 If the CONTRACTOR believes additional compensation or time is warranted, then he must immediately begin keeping complete, accurate, and specific daily records concerning every detail of the potential claim including actual costs incurred. The CONTRACTOR shall provide the DEPARTMENT access to any such records and furnish the DEPARTMENT copies, if requested. Equipment costs must be based on the CONTRACTOR's internal rates for ownership, depreciation, and operating expenses and not on published rental rates. In computing damages, or costs claimed for a change order, or for any other claim against the DEPARTMENT for additional time, compensation or both, the CONTRACTOR must prove actual damages based on internal costs for equipment, labor or efficiencies. Total cost, modified total cost or jury verdict forms of presentation of damage claims are not permissible to show damages. Labor inefficiencies must be shown to actually have occurred and can be proven solely based on job records. Theoretical studies are not a permissible means of showing labor inefficiencies. Home office overhead will not be allowed as a component of any claim against the DEPARTMENT.
- 15.1.5 If the claim or dispute is not resolved by the DEPARTMENT, then the CONTRACTOR shall submit a written Claim to the Contracting Officer within 90 days after the CONTRACTOR becomes aware of the basis of the claim or should have known the basis of the claim, whichever is earlier. The Contracting Officer will issue written acknowledge of the receipt of the Claim.
- 15.1.6 The CONTRACTOR waives any right to claim if the DEPARTMENT was not notified properly or afforded the opportunity to inspect conditions or monitor actual costs or if the Claim is not filed on the date required.

15.2 Presenting the Claim

- 15.2.1 The Claim must include all of the following:
- a. The act, event, or condition the claim is based on
 - b. The Contract provisions which apply to the claim and provide relief
 - c. The item or items of Contract work affected and how they are affected
 - d. The specific relief requested, including Contract Time if applicable, and the basis upon which it was calculated
 - e. A statement certifying that the claim is made in good faith, that the supporting cost and pricing data are accurate and complete to the best of your knowledge and belief, and that the amount requested accurately reflects the Contract adjustment which the CONTRACTOR believes is due.

15.3 Claim Validity, Additional Information, and DEPARTMENT's Action

- 15.3.1 The Claim, in order to be valid, must not only show that the CONTRACTOR suffered damages or delay but that it was caused by the act, event, or condition complained of and that the Contract provides entitlement to relief for such act, event, or condition.
- 15.3.2 The DEPARTMENT can make written request to the CONTRACTOR at any time for additional information relative to the Claim. The CONTRACTOR shall provide the DEPARTMENT the additional information within 30 days of receipt of such a request. Failure to furnish the additional information may be regarded as a waiver of the Claim.

15.4 Contracting Officer's Decision

The CONTRACTOR will be furnished the Contracting Officer's Decision within 90 days, unless the Contracting Officer requests additional information or gives the CONTRACTOR notice that the time for issuing a decision is being extended for a specified period under AS 36.30.620. The Contracting Officer's decision is final and conclusive unless, within 14 days of receipt of the decision, the CONTRACTOR delivers a Notice of Appeal to the Appeals Officer. Procedures for appeals are covered under AS 36.30.625 and AS 36.30.630.

15.5 Fraud and Misrepresentation in Making Claims

Criminal and Civil penalties authorized under AS 36.30.687 (including, but not limited to, forfeiture of all claimed amounts) may be imposed on the CONTRACTOR if the CONTRACTOR makes or uses a misrepresentation in support of a claim or defraud or attempt to defraud the DEPARTMENT at any stage of prosecuting a claim under this Contract.

INDEX TO GENERAL CONDITIONS

A

Article or Paragraph Number

Acceptance of Insurance..... 5.4

Access to the Work.....8.2; 13.11; 12.2

Actual Damages 11.8

Addenda-definition of..... Article 1

Advertisement - definition of..... Article 1

Alaska Agricultural/Wood Products7.12.3

Alaska Bidder- definition of7.12.1

Alaska Preferences7.12

Alaska Products7.12.2

Application for Payment-definition of.....Article 1

Application for Payment, Final..... 13.13

Application for Progress Payment13.3

Application for Progress Payment-review of..... 13.4

Approved or Approval definition of..... Article 1

Authorized Minor Variations of Work..... 9.3.2

Availability of Lands4.1

Award-definedArticle 1

B

Before Starting Construction11.2

Bid Bonds-definition ofArticle 1

Bidder-definition ofArticle 1

Bonds and insurances-in generalArticle 5

Bonds, Delivery of.....5.1

Bonds, Performance and Other5.2

Builder's Risk Insurance ("ALL RISK").....5.4.2.d

C

Cash Allowances	10.8
Change Order-definition of.....	Article 1
Change Orders-to be executed	9.4
Changes in the Work	9.1
Claims, Waiver of Final Payment.....	13.17
Clarifications and Interpretations.....	2.2.1.d; 3.6
Cleaning.....	6.5
Completion, Final	13.14
Completion, Substantial.....	13.10
Conferences, Preconstruction – definition of.....	Article 1
Conflict, Error, Discrepancy-CONTRACTOR to Report	3.5
Construction Machinery, Equipment, etc.	6.4
Consultant-definition of.....	Article 1
Continuing the Work	6.23
Contract-definition of	Article 1
Contract Documents-amending and Supplementing	9.1; 9.4; 9.6
Contract Documents- definition of	Article 1
Contract Documents-Intent.....	3.4
Contract Documents-Reuse of	3.7
Contract Price, Change of.....	9.4; 9.7; 10.1
Contract Price-definition of	Article 1
Contracting Officer's Authorities and Limitations	2.1
Contracting Officer- definition of.....	Article 1
Contracting Officer's Evaluations	2.2
Contract Time, Change of.....	9.4; 9.6; 11.4
Contract Time, Commencement of.....	11.1

Contract Time-definition of	Article 1
CONTRACTOR-definition of	Article 1
CONTRACTOR May Stop Work or Terminate	3.5.1; 4.6; 14.4.1
CONTRACTOR'S Continuing Obligation.....	13.16
CONTRACTOR'S Duty to Report Discrepancy in Documents.....	3.5
CONTRACTOR'S Fee-Cost Plus	10.3.3
CONTRACTOR'S Liability Insurance	5.4.2
CONTRACTOR'S Records	6.26
CONTRACTOR'S Responsibilities-in general	Article 6
CONTRACTOR'S Warranty to Title.....	13.6
Contractors-other	8.1; 8.2
Contractual Liability Insurance.....	5.4.2.b
Coordination	6.13.5; 8.4
Copies of Contract Documents	3.2
Correction or Removal of Defective Work.....	12.6
Correction Period, One Year	12.7
Correction, Removal or Acceptance of Defective Work-in general	12.6; 12.8
Cost and Pricing Data	10.3.4
Cost-net decrease	10.6.2.d; 10.6.2.e
Cost of Work	10.4
Costs, Supplemental	10.4.5

D

Day, Calendar-definition of	Article 1
Defective-definition of.....	Article 1
Defective Work, Acceptance of.....	12.8
Defective Work, Correction or Removal of.....	12.6; 12.9
Defective Work-in general.....	12.6; 12.8

Defective Work, Rejecting	12.4.2; 12.5
Definitions,.....	Article 1
Delivery of Bonds.....	5.1
DEPARTMENT-definition of	Article 1
DEPARTMENT May Correct Defective Work	12.9
DEPARTMENT May Stop Work.....	12.5
DEPARTMENT May Suspend Work.....	14.1
DEPARTMENT'S Liability Insurance.....	5.4.2.d
DEPARTMENT'S Responsibilities-in general	2.1
DEPARTMENT'S Separate Representative at site	2.1.1; 2.1.3
Determination for Unit Prices	10.10
Differing Site Conditions	9.9
Directive-definition of	Article 1
Directive-to be executed	9.3
Directive-required performance	9.3.5
Disputes, Decisions by Contracting Officer	2.2.1; 15.4
Documents, Copies of Contract	3.2
Documents, Record.....	6.16
Documents, Reuse	3.7
Drawings-definition of.....	Article 1

E

Easements	4.1
Emergencies.....	6.19
Equipment, Labor, Materials and.....	6.3; 6.4; 6.5
Equivalent Materials and Equipment.....	6.9
Explorations of physical conditions	4.3
Explosives.....	6.25

F

Fee, CONTRACTOR'S-Costs Plus.....	10.3.3
Final Acceptance	13.15
Final Acceptance- definition of	Article 1
Final Completion and Application for Payment	13.13
Final Completion- definition of	Article 1
Final Inspection	13.12
Final Payment	13.14
Final Payment, Processing of.....	13.14

G

General Requirements-definition of.....	Article 1
Giving Notice	3.5.1; 4.4.4; 4.6; 5.4.2; 6.17.3; 6.19; 6.20.4; 7.4; 7.11; 8.1.4; 8.3; 9.3.6; 9.8; 9.9; 10.10; 11.1; 11.2; 11.5; 12.1; 12.3.1; 12.3.4; 12.9; 13.10; 13.12; 14.1.1; 14.2.1 thru 14.2.4; 14.4.1; 14.4.3; 15.1
Guarantee of Work-by CONTRACTOR	12.1

I

Indemnification.....	7.1; 7.3; 5.5
Inspection, Final	13.12
Inspection, Tests and	12.3
Install-definition of	Article 1
Insurance, Bonds and- in general.....	Article 5
Insurance, Certification of	5.4.2
Insurance, Completed Operations	5.4.2.b
Insurance, CONTRACTOR'S Liability	5.4.2.b
Insurance, Contractual Liability.....	5.4.2.b

Insurance, Owner's Liability	5.4.1
Insurance, Property Damage.....	5.4.2.b
Insurance, Waiver of Subrogation Rights	5.4.2.a.1, 5.4.3
Intent of Contract Documents	3.4
Interpretations and Clarifications.....	2.2.1.3; 3.6
Investigations of physical conditions	4.3
Invitation for Bids- definition of.....	Article 1

L

Labor, Materials and Equipment.....	6.3; 6.4; 6.5
Laws and Regulations- general.....	Article 7
Liability Insurance- CONTRACTOR'S.....	5.4.1
Liability Insurance-Owner's.....	5.4.1
Liens, Resulting Judgements	14.2.1.g
Liquidated Damages	11.8

M

Materials and equipment- furnished by CONTRACTOR.....	6.4
Materials and equipment- incorporated in Work	6.5
Materials or equipment- equivalent	6.9
Multi-prime contracts	8.1

N

Notice, Giving of (See Giving Notice)	
Notice of Final Acceptance.....,	13.15
Notice of Intent to Award-definition of.....	Article 1
Notice to Proceed-definition of.....	Article 1
Notice to Proceed-giving of.....	11.1; 11.2; 11.3

O

"Or-Equal" Item.....	6.9
Other contractors	Article 8
Other work.....	8.1.1
Overtime Work-authorization of.....	7.14; 10.4.1
Owner-definition of (See DEPARTMENT)	Article 1

P

Partial Utilization.....	13.10
Partial Utilization (See Substantial Completion)- definition of	Article 1
Partial Utilization- Property Indurance	13.10
Patent Fees and Royalties	7.3
Payment, Recommendation of.....	13.4
Payments to CONTRACTOR-in general.....	Article 13
Payments of CONTRACTOR- withholding	13.7
Performance and other Bonds	5.2
Permits	7.2
Physical Conditions-in general	Article 4
Physical Conditions- Contracting officer's review.....	9.9
Physical Conditions- existing structures	4.3
Physical Conditions- explorations and reports.....	4.3
Physical Conditions-possible document change	9.9
Physical Conditions-price and time adjustments	9.9
Physical Conditions-report of differing	4.6; 9.9
Physical Conditions- Underground Utilities	4.4
Preconstruction Conference-definition of	Article 1
Premises, Use of	6.14
Price, Change of Contract.....	10.1
Price, Contract-definition of	Article 1

Progress Payment, Application for	13.3
Progress Payment-retainage.....	13.8
Progress schedule	6.6; 6.7; 6.8
Project-definition of.....	Article 1
Project Manager-definition of.....	Article 1
Project Representation- provision for	2.1.1
Project, Starting the	11.2
Property Insurance	5.4.3
Property Insurance- Partial Utilization	13.10
Protection, Safety and	6.17

R

Recommendation of Progress Payment	13.4
Record Documents.....	6.16
Reference Points	4.7
Regulations, Laws and.....	Article 7
Rejecting Defective Work	12.4.2; 12.5
Related Work at Site.....	3.4.1
Removal or Correction of Defective Work.....	12.6; 12.9
Responsibilities, CONTRACTOR'S-in general	Article 6
Retainage	13.8
Reuse of Documents	3.7
Review of Shop Drawings and Samples	;.....6.21
Right of Ways.....	4.1
Royalties, Patent Fees and	7.3

S

Safety and Protection	6.17
Samples.....	6.20; 6.21

Schedule of Progress.....	6.6; 6.7; 6.8
Schedule of Shop Drawing submissions	6.6; 6.7; 6.8; 6.20.1
Schedule of Values- definition	Article!
Schedule of Values	6.6; 6.7; 6.8
Schedules, Finalizing	6.7
Shop Drawings and Samples	6.20; 6.21
Shop Drawings-definition of	Article 1
Shop Drawings, use to approve substitutions	6.9.4; 6.20.4
Site, Visits to-by Contracting Officer	2.4
Specifications-definition of.....	Article 1
Starting Construction, Before	6.6.1
Starting the Project	11.2
Stopping Work-by CONTRACTOR.....	3.5.1; 4.6; 14.4.2
Stopping Work-by Owner.....	12.5; 14.1
Subcontractor-definition of.....	Article 1
Subcontractors-in general	6.13
Subcontracts-required provisions.....	6.13.1; 6.13.3
Substantial Completion- certification of.....	13.10
Substantial Completion- definition of.....	Article 1
Substitute or "Or-Equal" Items	6.9
Subsurface Conditions	Article 4, 9.9
Supplemental Agreement-definition of.....	Article 1
Supplemental Agreement- general use	9.6
Supplemental costs	10.4.5
Supplementary Conditions- definition of.....	Article 1
Supplementary Conditions- principal references to	3.5; 4.3; 5.4; 11.8
Supplier-definition of.....	Article 1
Supplier-principal references	2.1.3; 3.7; 6.9; 6.12; 6.13.2; 6.20; 6.21

Surety-consent to payment.....	13.14.2
Surety-Consultant has no duty to.....	2.1.3
Surety-notice to.....	9.8; 14.2
Surety-qualification of	5.2; 5.3
Surety Replacement	5.3
Suspending Work, by Owner.....	14.1
Suspension of Work and Termination-in general	Article 14
Superintendent-CONTRACTOR's.....	6.2
Supervision and Superintendence.....	6.1; 6.2

T

Taxes-Payment by CONTRACTOR.....	7.2
Termination-by Owner	14.4.1
Termination, Suspension of Work and-in general	Article 14
Tests and Inspections	12.3
Time, Change of Contract.....	9.4; 11.4
Time, Computations of	11.3
Time, Contract-definition of	Article 1

U

Uncovering Work	12.4
Underground Utilities- general	4.4
Underground Utilities-not shown or indicated.....	4.6
Underground Utilities- protection of.....	4.4.2.d
Underground Utilities- shown or indicated.....	4.4.1
Unit Price Work-definition of.....	Article 1
Unit Price Work-general.....	10.9
Unit Prices	10.9.1

Unit Prices, Determination for.....	10.10
Use of Premises	6.14
Utility Owner's Notification.....	4.4.2.c; 4.4.3; 4.4.4; 4.5; 4.6
Utility, Damaged.....	4.5

V

Values, Schedule of	6.6; 6.7; 6.8
Variations in Work- Authorized	9.2
Visits to Site-by Contracting Officer	2.4

W

Waiver of Claims-on Final Payment.....	13.17
Waiver of Rights by insured parties.....	13.18
Warranty and Guarantee-by CONTRACTOR	12.1
Warranty of Title, CONTRACTOR'S.....	13.6
Work, Access to.....	8.2; 13.11; 12.2
Work-by others-general	Article 8
Work Continuing During Disputes	6.23
Work, Cost of	10.4
Work-definition of	Article 1
Work, Neglected by CONTRACTOR	14.2.1.c
Work, Stopping by CONTRACTOR	3.5.1; 4.6
Work, Stopping by Owner	12.5; 14.1

**STATE OF ALASKA
DEPARTMENT OF CORRECTIONS**

DOCUMENT 00800 – SUPPLEMENTARY CONDITIONS TO:

**MODIFICATIONS TO THE GENERAL CONDITIONS OF
THE CONSTRUCTION CONTRACT FOR BUILDINGS**

The following supplements modify, change, delete from, or add to Section 00700 "General Conditions of the Construction Contract for Buildings", revised December 2011. Where any article of the General Conditions is modified, or a Paragraph, Subparagraph, or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

SC-1- DEFINITIONS

A. At General Conditions Article 1, definition of:

1. **CFR** - Initials that stand for the Code of Federal Regulations.
2. **OWNER**- The State of Alaska, Department of Corrections.
3. **QUALITY ASSURANCE ACCEPTANCE TESTING**- This is all sampling and testing performed by the DEPARTMENT to determine at what level the product or service will be accepted for payment. Qualified personnel and laboratories will perform sampling and testing. The DEPARTMENT pays for this testing.
4. **QUALITY ASSURANCE PROGRAM (QA PROGRAM)**- An FHWA required program developed by the DEPARTMENT (see Section 01400). The QA program assures that materials and workmanship incorporated into each Federal-aid highway construction project conforms to the Contract Plans and Specifications, including changes. This QA Program consists of all those planned and systematic actions necessary to provide adequate confidence that the product or service will satisfy given requirements for quality. The QA Program includes the CONTRACTOR'S Quality Control Plan, acceptance testing, verification testing, independent assurance testing, and quality level analysis.
5. **QUALITY CONTROL PROGRAM (QC PROGRAM)** – The CONTRACTOR'S, Subcontractor's or Supplier's operational techniques and activities that maintain control of the manufacturing process to fulfill the Contract requirements. This may include materials handling, construction procedures, calibration and maintenance of equipment, production process control, material sampling, testing and inspection, and data analysis.
6. **RESIDENT ENGINEER OR INSPECTOR**- The Engineer's authorized representative assigned to make detailed observations relating to contract performance.

SC-2.4 - VISITS TO SITE/PLACE OF BUSINESS

At General Conditions Article 2.4, delete the first four words of the first sentence ("The Contracting Officer will ...") and replace with the following words "The Contracting Officer has the right to, but is not obligated to..."

SC-4.2 - VISIT TO SITE

At General Conditions Article 4.2, delete this article in its entirety and replace with the following article:

- 4.2.1. Pre-bid site visit is schedule for September 25, 2024 at 1:00 pm local time.
- 4.2.2. The submission of a bid by the CONTRACTOR is considered a representation that the CONTRACTOR has reviewed and carefully examined the site and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the Contract Documents."

SC-4.3 - EXPLORATIONS AND REPORTS

At General Conditions Article 4.3, add the following paragraph:

"All reports and other records (if available) are provided for informational purposes only to all plan holders listed with the DEPARTMENT as General Contractors and are available to other planholder's upon request. They are made available, so Bidders have access to the same information available to the DEPARTMENT. The reports and other records are not intended as a substitute for independent investigation, interpretation, or judgment of the Bidder. The DEPARTMENT is not responsible for any interpretation or conclusion drawn from its records by the Bidder. While referenced by or provided with the Contract Documents; the recommendations, engineering details, and other information contained in these reports of explorations shall not be construed to supersede or constitute conditions of the Contract Documents."

SC-5.4.1 - INSURANCE REQUIREMENTS

At General Condition Article 5.4.1, delete the second to the last sentence and replace with the following: "The delivery to the DEPARTMENT of a written notice in accordance with the policy provisions is required before cancellation of any coverage or reduction in any limits of liability."

SC-5.4.2a-WORKERS COMPENSATION INSURANCE

At General Condition Article 5.4.2a, delete paragraph "a" in its entirety and replace with the following:

- a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract. Coverage shall include:
 - 1. Waiver of subrogation against the State.
 - 2. Employer's Liability Protection in the amount of \$500,000 each accident / \$500,000 each disease.
 - 3. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the work, "Other States" endorsement shall be required as a condition of the contract.
 - 4. Whenever the work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor

Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000."

SC-5.4.2d - BUILDERS RISK INSURANCE (SUBCONTRACTORS)

At General Conditions Article 5.4.2d, delete the subsection in its entirety.

SC-6.13 - SUBCONTRACTORS

A. Add the following paragraph:

6.13.7 The CONTRACTOR may, without penalty, replace a Subcontractor who:

1. Fails to comply with the licensing and registration requirements of AS 08.18;
2. Fails to obtain or maintain a valid Alaska Business License;
3. Files for bankruptcy or becomes insolvent;
4. Fails to execute a subcontract or performance of the work for which the Subcontractor was listed, and the CONTRACTOR has acted in good faith;
5. Fails to obtain bonding acceptable to the DEPARTMENT;
6. Fails to obtain insurance acceptable to the DEPARTMENT;
7. Fails to perform subcontract work for which the Subcontractor was listed;
8. Must be replaced to meet the CONTRACTOR'S required state or federal affirmative action requirements.
9. Refuses to agree to abide by the CONTRACTOR'S labor agreement; or
10. Is determined by the DEPARTMENT to be not responsible.

In addition to the circumstances described above, a Contractor may in writing request permission from the Department to add a new Subcontractor or replace a listed Subcontractor. The DEPARTMENT will approve the request if it determines in writing that allowing the addition or replacement is in the best interest of the state.

The contractor shall submit a written request to add a new Subcontractor or replace a listed Subcontractor to the Contracting Officer a minimum of five working days prior to the date the new Subcontractor is scheduled to begin work on the construction site. The request must state the basis for the request and include supporting documentation acceptable to the Contracting Officer.

If a CONTRACTOR violates this article, the Contracting Officer may:

1. Cancel the Contract after Award without any damages accruing to the department; or
2. After notice and hearing, assess a penalty on the bidder in an amount not exceeding 10 percent of the value of the subcontract at issue."

SC-6.17 – SAFETAY AND PROTECTION

Add the following paragraph at the end of the existing text:

6.17.4 The Contractor is responsible for ensuring all workers are adequately protected. The Contractor shall have a safety and health management program that complies with AKOSH requirements, and includes:

1. A worksite hazard analysis;
2. A hazard prevention and control plan including personal protective equipment and safe work procedures required for specific tasks;
3. New employee training and periodic worker training regarding safety and health;
4. Regular safety meetings with written documentation of attendance, safety topics discussed, worker safety complaints, and corrective actions taken, and
5. A designated safety officer, employed by the Contractor, who monitors the construction site and is responsible for implementing the safety and health management program.
6. Measures to comply with Executive Order 13513 – Federal leadership on reducing text messaging while driving, dated October 1, 2009. And DOT Order 3902.10 – Text messaging while driving, dated December 30, 2009
7. Measures to comply with Alaska Statute 28.35.161 – Driving a motor vehicle with a screen device operating; unlawful installation of television, monitor, or similar device.

SC-6.18 – SAFETY REPRESENTATIVE

At General Conditions Article 6.18, delete this article in its entirety and replace with the following article:

The CONTRACTOR shall designate a responsible safety representative at the site. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the Contracting Officer. The responsible safety person must maintain OSHA 29 CFR 30-Hour Construction Safety training certificate. Training must have been completed within the past 5 years. Training card must be provided prior to starting any site construction activities.

SC-7.2 - PERMITS, LICENSES, AND TAXES

A. In Paragraph 7.2.1, add the following subparagraphs:

The terms, conditions, and stipulations in permits obtained either by the DEPARTMENT or by the CONTRACTOR is made part of this Contract.

1. The CONTRACTOR shall procure all other permits and licenses required to complete the project, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work.
2. The CONTRACTOR shall obtain the State of Alaska Fire Marshal plan review.

SC-7.12-APPLICABLE ALASKA PREFERENCES

At General Condition Article 7.12. add the following paragraph:

"7.12.5 Alaska Veteran's Preference (AS 36.30.321). In determining the low bidder for State funded projects, a 5% bid preference has been given to a bidder who qualifies under AS 36.30.321 (f) as an Alaska bidder and is a Qualifying Entity. This preference may not exceed \$5,000.00. In this subsection a "Qualifying Entity" means a:

1. Sole proprietorship owned by an Alaska Veteran;
2. Partnership under AS 32.06 or AS 32.11 if a majority of the Members are Alaska veterans;
3. Limited liability Company organized under AS 10.50 and if a majority of the members are Alaska veterans; or
4. Corporation that is wholly owned by individuals and a majority of the individuals are Alaska veterans.

A preference under this section is in addition to any other preference for which the bidder qualifies. To qualify for this preference, the bidder must add value by the bidder actually performing, controlling, managing and supervising a significant part of the services provided or the bidder must

have sold supplies or the general nature solicited to other state agencies, government, or the general public. An Alaska veteran shall be a resident of this state and an individual who served in the Armed forces of the United States, including a reserve unit of the United States armed forces; or Alaska Territorial Guard, the Alaska Army National Guard, or the Alaska Navel Militia; and was separated from service under a condition that was not dishonorable.

The bidder shall provide an Alaskan Veteran's Preference Affidavit on Form 2SD-17, certifying they qualify as an Alaska bidder eligible for Alaska Veteran's preference according to AS 36.30.

SC-7.13-WAGES AND HOURS OF LABOR (Federal Wages/Hours not required)

A. In paragraph 7.13.3, delete this paragraph in its entirety and replace with the following

paragraphs: 7.13.3 Notice of Work and Completion; Withholding of Payment

- A. Within three calendar days of award of a construction contract, the CONTRACTOR Shall file a "Notice of Work" with the Department of Labor and Workforce Development (DOLWD) fees per AS 36.08.045. The CONTRACTOR lists all their Subcontractors who will perform any portion of work on the contract and the contract price being paid to each subcontractor. The primary contractor shall pay all filing fees for each subcontractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each subcontractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. **The "Notice of Work" is available at <http://www.labor.state.ak.us/lss/forms/notice-of-work.pdf>**
- B. The Contracting Officer will not issue Notice to Proceed to the CONTRACTOR until such notice and fees have been paid to DOLWD. Failure of the CONTRACTOR to file the Notice of Work and pay fees within this timeframe shall not constitute grounds for an extension of contract time or adjustment of contract price.
- C. Upon completion of all work, the primary contractor shall file with DOLWD a "Notice of Completion" together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after DOLWD's receipt of the primary contractor's notice of completion, DOLWD shall inform the DEPARTMENT of the amount, if any, to be withheld from the final payment. **The " Notice of Completion Form" is available at; <http://www.labor.state.ak.us/lss/forms/not-comp-pub-wrks.pdf>**

SC-9.1-DEPARTMENTS RIGHT TO CHANGE

At General Condition Article 9.1, ADD THE FOLLOWING SENTENCE;

Without invalidating the Contract and without notice to any Surety, the DEPARTMENT may, at any time or from time to time, order additions, deletions or revisions in the Work within the general scope of the Contract, including but not limited to changes:

SC-9.4 – CHANGE ORDER

Changes in scope of work or cost must be pre-approved by John Gard, Project Manager.

SC-11.8-DELAY DAMAGES

At General Condition Article 11.8, add the following paragraphs:

Liquidated Damages:

- **Eight Hundred Fifty-Three Dollars & Twenty Cents** (\$853.20) per day for each calendar day elapsing between the time stipulated for the sub-completion date and in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.
- **One Hundred Fifteen Dollars & Zero Cents** (\$115.00) per day for each calendar day elapsing between the time stipulated for the final completion date and in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

SC-12.1-WARRANTY AND GUARANTEE

At General Condition Article 12.1, add the following sentence:

"The failure of the DEPARTMENT to strictly enforce the Contract in one or more instances does not waive its right to do so in other or future instances."

SC-15.1-NOTIFICATION

In Paragraph 15.1.2, delete, "Section 01310" and replace with Section 01 32 00.

**END OF
SECTION 00800**

NOTICE TO BIDDERS

In an attempt to save money and paper the department will no longer send hard copies out with solicitations on construction projects of the PAM 600. Instead, we have provided web links and contact information below. If you are unable to view this links and would like a hard copy of these documents, please contact the Procurement Officer for this project and request a copy.

Pamphlet 600: Laborers' & Mechanics' Minimum Rates of Pay

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

Pamphlet 400: Title 36 Public Contracts & 8 AAC Chapter 30

<http://labor.state.ak.gov/lss/forms/Pam400.pdf>

Notice of Work / Notice of Completion (Required On All Projects Over \$25K)

You must submit these through “My Alaska” web link at <https://my.alaska.gov/> you must register if not already.

Once you have logged in, return to the home page under “Services for Businesses”, click on “LSS-Online Filing Services”.

<https://certpay.dol.alaska.gov/portal.aspx>

Employment Preference Determination (July 1, 2017)

<http://labor.alaska.gov/lss/forms/2017-employment-pref-determination.pdf>

DOL Alaska Employment Preference Information

<http://labor.alaska.gov/lss/forms/2015-employment-info-sheet.pdf>

Alaska Wage and Hour Administration

Offices / Hours and Web links:

Anchorage: Anchorage.lss-wh@alaska.gov

Phone: 907-269-4909

Fax: 907-269-4915

Juneau: Juneau.lss-wh@alaska.gov

Phone: 907-465-4842

Fax: 907-465-3584

Fairbanks: Fairbanks.lss-wh@alaska.gov

Phone: 907-451-2886

Fax: 907-451-2885

If you have questions or need further assistance, please contact the Procurement Officer.

SECTION 01000
GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- 1.02 Related Documents
- 1.03 Work Covered by Contract Documents
- 1.04 Contract Method
- 1.05 Building Permits and Inspections
- 1.06 Substantial / Final Completion
- 1.07 Contractor Use of the Premises
- 1.08 Department of Corrections Occupancy
- 1.09 Department Furnished Products
- 1.10 Alternates
- 1.11 Applications for Payment
- 1.12 Reference Standards
- 1.13 Pre-Bid Site Visit
- 1.14 Progress Meetings
- 1.15 Submittals
- 1.16 Shop Drawings
- 1.17 Product Data
- 1.18 Electricity, Lighting
- 1.19 Heat, Ventilation
- 1.20 Water
- 1.21 Sanitary Facilities
- 1.22 Enclosures / Barriers
- 1.23 Protection of Installed Work
- 1.24 Cleaning During Construction
- 1.25 Removal
- 1.26 Contract Closeout Procedures
- 1.27 Project Record Documents
- 1.28 Operation and Maintenance Data
- 1.29 Warranties
- 1.30 Spare Parts and Maintenance Materials

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary conditions.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

Work covered by the contract document is located at Yukon Kuskokwim Correctional Center (YKCC) in Bethel, Alaska. Work on this contract consists of all materials, equipment, labor, site prep, freight, travel and

supervision necessary for the complete construction of a tension fabric building enclosure, pilings and foundation on the correctional facility grounds in Bethel, Alaska. Contractor is to refer to the Scope of Work for more detailed information.

SCOPE OF WORK:

The Contractor shall provide all labor, materials, equipment, and travel/lodging cost to build a recreation center west of the existing recreation at Yukon Kuskokwim Correctional Center in Bethel, Alaska. The new structure will enclose 2,838 sf and will include exercise areas, a $\frac{3}{4}$ size basketball court, mechanical and electrical rooms. The project involves erecting a tensile structure over a permanent foundation, constructing interior wall partitions, flooring and finishes. Must include new lighting electrical, sprinkler and HVAC systems. A new ramp with landings connecting the existing building to the proposed addition and exterior stairs are to be included.

Project work will accept upon completion of all requirements specified within the construction contract. Project will be considered substantially complete when the work is ready to be used for its intended purpose. Final Completion will occur when all punch list work, closeout documents, and all other remaining items are accepted as complete.

YKCC is a 24/7 Correctional Facility. Security requirements required. All contractors must be able to pass a security background check prior to start working.

1.04 CONTRACT METHOD

- A. All work shall be performed under a single fixed-price contract.

1.05 BUILDING PERMITS AND INSPECTIONS

- A. Contractor shall call for all building inspections required by the City of Bethel for this project and obtain all required permits for this project.

1.06 SUBSTANTIAL / FINAL COMPLETION

- A. Project shall be substantially completed by **September 1, 2026**, after Award of Contract or Notice to Proceed is issued. Substantial Completion defined by "Work ready for its intended use by the Owner."
- B. Final Completion date is **December 30, 2026**.

1.07 CONTRACTOR USE OF PREMISES

- A. Limit use of premises for Work and for construction operations, to allow for DOC occupancy and security.

- B. Site availability to Contractor is to be coordinated through the On-Site Project Manager.
- C. Contractor is hereby advised that there is no equipment, there are no tools, and there are no materials at the facility available for the use of the Contractor.
 - 1. Project Manager will be John Gard, (907) 269-7391, john.gard@alaska.gov.
 - 2. On-site Contact person, YKCC Superintendent

1.08 DEPARTMENT OF CORRECTIONS OCCUPANCY

- A. DOC will not directly occupy project area during the construction period. However, DOC will continue to occupy the facility and inmates and staff will require limited access in and around the construction area during the entire period of construction. Coordinate with the DOC on-site Project Manager to minimize conflict when needing to access construction area.

1.09 DEPARTMENT FURNISHED PRODUCTS – Not Used

1.10 ALTERNATES – See above Scope of Work.

1.11 APPLICATIONS FOR PAYMENT

- A. Submit two copies of application on Application for Payment form provided by the Department or on contractor form acceptable to the Department.
- B. Content & Format: Include contract number, period covered by the project. Identify portion of contract the invoice is for, i.e., Basic Bid and/or Change Order (if applicable).

1.12 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the Project Advertisement date, or Effective Date of the Contract when there was no advertisement, except when a specific date is specified.
- C. Specific Required Reference Standards will be listed in each Specification Section.

1.13 PRE-BID SITE VISIT

- A. The DOC has scheduled a pre-bid site visit for **September 25, 2024, at 1:00 PM** local time. **The site visit for this project is mandatory.**

1.14 PROGRESS MEETINGS

- A. Contractor to allow time each week to meet with the Project Manager or his representative to review the work in progress and his proposed schedule. This will be an informal meeting on a day and time convenient to both parties.

1.15 SUBMITTALS

A. Deliver one (1) copy plus the number required for the Contractor's use of Project submittals as directed. Transmit each item under Department accepted format. Apply contractor's review stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the contract documents. Identify variations from contract documents and products or system limitations.

- B. After DOC review of submittal, revise and resubmit as required.

1.16 SHOP DRAWINGS

- A. When required by the Contract Documents, submit the number of opaque reproductions that Contractor requires, plus four copies, which will be retained by DOC.

1.17 PRODUCT DATA

- A. Where required by the Contract Documents, mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work.
- B. Submit the number of copies that the Contractor requires, plus four copies that will be retained by the DOC.

1.18 ELECTRICITY, LIGHTING

- A. Connect to existing service; provide branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords. Department will pay costs of energy used. Take measures to conserve energy.
- B. Provide lighting for construction operations.
- C. Existing and permanent lighting may be used during construction. Maintain lighting and make routine repairs.

1.19 HEAT, VENTILATION

- A. Coordinate use of existing facilities with Department; extend and supplement with temporary units as required to maintain specified conditions for construction operations, to protect materials and finishes from damage due to temperature or humidity. Department will pay costs of energy used.
- B. Prior to operation of permanent facilities for temporary purposes, verify that installation is approved for operation, and that filters are in place. Provide and pay for operation and maintenance.
- C. Provide ventilation of enclosed areas to cure materials, to disperse humidity, and to prevent accumulations of dust, fumes, vapors, or gases.

1.20 WATER

- A. Provided by the Facility. Contact YKCC Superintendent to arrange for hook-up.

1.21 SANITARY FACILITIES

- A. Coordinate with the facility.

1.22 ENCLOSURES / BARRIERS

- A. Provide as required to prevent public entry to construction areas to provide for Department and Using Agency's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades as required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water, as required.

1.23 PROTECTION OF INSTALLED WORK

- A. Provide temporary protection for installed products. Control traffic, as required, in immediate area to minimize damage
- B. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects, and storage.
- C. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped area.

1.24 CLEANING DURING CONSTRUCTION

- A. Control accumulation of waste materials and rubbish, clean area and dispose of off-site.
- B. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

1.25 REMOVAL

- A. Remove temporary materials, equipment, services, and construction prior to substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.

1.26 CONTRACT CLOSEOUT PROCEDURES

- A. Comply with procedure stated in the General Conditions of the Contract for issuance of Certificate of Substantial Completion.
- B. Using Agency will occupy Project for the purpose of conduct of business under provision stated in certificate of Substantial Completion.
- C. When Contractor considers work has reached Final Completion, submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and requesting Department inspection.
- D. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Price and sum due.
- E. Department will issue a summary Change Order reflecting final adjustments to Contract price not previously made by Change Order.

1.27 PROJECT RECORD DOCUMENTS - Not Used.

1.28 OPERATION AND MAINTENANCE DATA

- A. Provide data for:
 - 1. Mechanical/Plumbing equipment and controls.
 - 2. Electrical equipment, controls, and visual / audible alarms.
- A. Operation and maintenance instructions. For each system, give names, addresses, and phone numbers of Subcontractors and Suppliers.

1. Appropriate design criteria.
2. List of equipment.
3. Parts list.
4. Operating instructions.
5. Maintenance instructions, equipment.
6. Maintenance instructions, finishes.
7. Shop drawings and product data.
8. Warranties.

1.29 WARRANTIES

- A. Contractor shall guarantee / warranty the work, material, and labor for one (1) year from the date of project acceptance. Provide duplicate, notarized copies.
- B. Submit material prior to final application for payment. For equipment put into use with Department permission during construction, submit within 10 days after first operation. For items of work delayed materially beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.30 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, and maintenance materials from excess materials remaining from that used from construction of work. Coordinate with Department deliver to Project site and obtain receipt prior to final payment.

PART 2 PRODUCTS - Not Used.

PART 3 EXECUTION - Not Used

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This document outlines security provisions that the CONTRACTOR working at the Yukon Kuskokwim Correctional Center (YKCC) will be required to follow. The facility is an occupied maximum-security institution housing unsentenced and sentenced male/female inmates. As the performance of the Work could impact the operation of the institution, the Department of Corrections (DOC) is concerned that the CONTRACTOR understands and complies with its security requirements. The intent of this Section is to prevent: any escape, sabotage, or assault attempt; any disturbance, or the importation of contraband.

1.02 REQUIREMENTS INCLUDED

- A. Security Check
- B. Project Manager
- C. Personnel Access
- D. Vehicle Access
- E. Tool Control
- F. Contraband

1.03 RELATED REQUIREMENTS

- A. Section 01000 – General Requirements

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 SECURITY CHECK

- A. All personnel (CONTRACTOR and Subcontractor staff) will be required to undergo a security check prior to commencement of work. A mandatory security briefing will be provided to CONTRACTOR's forces by YKCC prior to start of on-site work.
- B. The CONTRACTOR will submit a list of personnel and a completed "Request for Clearance" form for each individual to the Facilities Manager (John Gard) assigned and forwarded to the security officer for review at least 72 hours prior to commencement of work. A clearance form will be provided to the Contractor upon award of the contract. In general, the following information is required for each person:
 - 1. Full name.
 - 2. Residence address.
 - 3. Telephone Number.
 - 4. Date of birth.

5. Social Security Number.
 6. Valid driver's license and state of issue, or other photo identification bearing social security number.
- C. The security check will look for recent or frequent past convictions or for outstanding warrants. YKCC reserves the right to disqualify anyone from access to the work site. A past conviction will not automatically disqualify.

3.02 PROJECT MANAGER

- A. **John Gard, Project Manager**, or designee will be the liaison between the CONTRACTOR and the facilities.
- B. In the event of an emergency affecting the secure operation of YKCC, the Project Manager is authorized to direct the CONTRACTOR to take appropriate action. The directions of the Project Manager will be followed immediately.
- C. The Project Manager shall be briefed each week by the CONTRACTOR regarding the CONTRACTOR's work requirements and weekly work plan for the subsequent week. This briefing may be performed concurrently with the progress meetings that may be required under the contract.

3.03 PERSONNEL ACCESS

- A. Access to the Work site, which is within a correctional facility, will be monitored and controlled by the Department of Corrections to prevent importation of contraband and escape of inmates.
- B. Construction crews will report to the front desk at the beginning of each shift to obtain their identification badge or visitors badge and sign in on the Contractor's log. At the end of each shift, workmen will return their badges to this office and sign out on the Contractor's log. If workers leave the compound at lunch, they will leave as a group. Contractor should encourage workmen to bring lunch rather than leave.
- C. Contractors, Subcontractors, Employees may be denied access or be removed from the facility for the following reasons:
1. Contractors or workers that are incompetent, careless, or otherwise detrimental to the work or the security of the facility.
 2. Security requirements.
 3. Disruptive, abrasive, and/or argumentative conduct.
 4. Being under the influence of Alcohol, Drugs and/or any substance that is considered contraband by the Facility.
 5. Refusal to submit to search of personal property/belongings or themselves.
 6. Health problems.
 7. Failure to show proper identification.
 8. Failure to follow the direction of Correctional Officers and/or staff members.
 9. Having any contact or interaction with inmates.
 10. Failure to pass security check.

11. Failure to secure tools and work areas. (Contractor is required to provide personnel to secure his work area and tools. This means that there will be a member of the Contractor's staff in the active work area. If no personnel are physically present in the work area, the work area and/or tools will be secured.)

3.04 VEHICLE ACCESS

- A. No privately-owned vehicles may enter inside the security fence without approval of the DOC on-site Security Officer. Employee vehicles can be parked in the employee/visitor parking lot outside the security fence.
- B. Authorized work vehicles, i.e. job site trailers and trucks may be left inside the fence in a location if they can be secured and upon the approval of the facilities on-site Security Officer.

3.05 TOOL CONTROL

- A. Do not leave prisoner-accessible work areas unattended without first removing or securing all tools and objects that would be considered contraband.
- B. At the end of each workday, remove all tools and equipment from inmate-accessible work areas and store within locked cabinets, locked containers, or locked storage trailers.
- C. Maintain written inventory of tools and equipment daily. Tools and equipment that cannot be accounted for at the end of each workday shall be brought to the immediate attention of the Security Officer.

3.06 CONTRABAND

- A. The mailing, bartering, introducing, exchanging, or buying of items between inmates and contractors or their employees is strictly prohibited without the written consent of the Superintendent of the institution.

The following quotes are from Alaska Statutes and are provided herein to inform the CONTRACTOR:

Title 11 - Alaska Statutes

Section 11.56.375, Promoting contraband in the first degree.

1. A person commits the crime of promoting contraband in the first degree if the person violates AS 11.56.380 and the contraband is:
 - a. a deadly weapon;
 - b. an article that is intended by the defendant to be used as a means of facilitating an escape;
 - c. a controlled substance; or
2. Promoting contraband in the first degree is a class C felony.

Section 11.56.380, Promoting contraband in the second degree.

1. A person commits the crime of promoting contraband in the second degree if the person:
 - a. Introduces, takes, conveys, or attempts to introduce, take, or convey contraband into a correctional facility; or
 - b. Makes, obtains, possesses, or attempts to make, obtain, or possess anything that person knows to be contraband while under official detention within a correctional facility.
2. Promoting contraband in the second degree is a Class A misdemeanor.
 - a. Effective August 26, 1999, contraband includes tobacco products.

Sec. 11.56.390, definition:

In AS 11.56.300-11.56.390, "contraband" means any article or thing which persons confined in a correctional facility are prohibited by law from obtaining, making, or possessing in that correctional facility."

END OF SECTION

SECTION 01560 - CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Execute cleaning during progress of the Work and at completion of the Work.

1.2 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

PART - EXECUTION

3.1 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the Work, the site, and adjacent properties free from accumulations of waste materials, rubbish, and wind blown debris resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris, and rubbish.
- C. Properly remove waste materials, debris and rubbish from the site and legally dispose of.

3.2 DUST CONTROL

- A. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.3 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Prior to final completion or Using Agency occupancy, the Contractor shall conduct an inspection of sight-exposed interior surfaces and all Work areas to verify that the entire Work is clean.

END OF SECTION



STATE OF ALASKA
DEPARTMENT OF CORRECTIONS

**ALASKA VETERAN PREFERENCE
CERTIFICATION**

In response to the advertised procurement for:

Project Name and Number YKCC Recreational Area Renovations, Project# 230001184-3

Bidder (Contractor) _____

Operation of Alaska Veteran Preference

Procurement preferences under the Alaska Procurement Code are benefits that the State grants only to qualified bidders. Under AS 36.30.321, an eligible entity receives a five percent preference to the price of in the bidder's proposal if the bidder meets three requirements.

The bidder must be:

1. an "Alaska Veteran";
2. a "Qualifying Entity"; and
3. an "Alaska Bidder".

Unless a bidder satisfies all three requirements and furnishes corresponding certifications, it is not eligible for the Alaska Veteran Preference. This preference may not exceed \$5,000.

Instructions regarding Alaska Veteran Preference

A bidder that claims the Alaska Veteran Preference must review and complete the "Alaska Veteran Certification", the "Qualifying Entity Certification", and the "Alaska Bidder Certification". The individual that signs a certification shall include his/her printed name and position within bidder's organization, e.g., sole proprietor, partner, etc. If a bidder fails to submit properly completed certifications, the Department will not apply the claimed preference.

Alaska Veteran Certification

(To be completed by individual(s) upon whom the bidder relies in claiming the Alaska Veteran status. If bidder is a partnership, limited liability company, or corporation, then a majority of partners, members, or shareholders who are Alaska Veterans must sign this Alaska Veteran Certification for the Bidder to be eligible for this preference.)

I hereby represent to the Department that:

I served in the armed forces of the United States, a reserve unit of the United States armed forces, the Alaska Territorial Guard, the Alaska Army National Guard, the Alaska Air National Guard, or the Alaska Naval Militia; and

I was separated from service under a condition that was not dishonorable; and

I am Alaska resident in that I am physically present in the State of Alaska with the intent to remain in the State indefinitely and to make a home in the State.

I certify under penalty of perjury that the foregoing statements are true and correct as they apply to me.

By (signature)

Date

Printed name

Title

Qualifying Entity Veteran Certification

The bidding entity for which I am the duly authorized representative is a:

(Check the appropriate box)

- sole proprietorship owned by an Alaska Veteran;
- partnership under AS 32.06 or AS 32.11 and a majority of the partners are Alaska Veterans;
- limited liability company organized under AS 10.50 and a majority of the members are Alaska Veterans;
or
- corporation that is wholly owned by individuals and a majority of the individuals are Alaska Veterans.

By applying my signature below, I certify under penalty of perjury that I am the duly appointed representative of this bidder, which has authorized and empowered me to legally bind it concerning the proposal and that the statement I have acknowledged above by checking the appropriate box is true and correct.

By (signature)

Date

Printed name

Title

Alaska Bidder Certification

(To complete your claim for the Alaska Veteran Preference, you must also submit an Alaska Bidder Certification, which the bidder can view, download, and print from the AKDOT&PF's Bid Express Proposal page.)



State of Alaska
Department of Corrections
REQUEST FOR CLEARANCE

Contractor/Contract Staff Background
Check

Date: _____

Applicant Name: _____

Mailing Address: _____

Purpose of this check: _____

Date of Birth: _____ Social Security # : _____

Alaska driver's license #: _____

Other states applicant has resided in and the dates: _____

Prior criminal history (including the state the offense occurred in): _____

Is applicant currently on probation or parole? _____ If yes, where? _____

Does applicant have any relatives or acquaintances presently incarcerated in Alaska or under the Dept. of Corrections supervision? _____ If yes, state the person's name/location: _____

Clearance requested by (Contractor): _____

Address: _____ Phone: _____

The information that I have provided is true and accurate to the best of my knowledge. I authorize the Department of Corrections to perform a background investigation for any and all prior convictions or current warrants.

Signature of applicant: _____ Date: _____

Contractor's signature: _____ Date: _____

DO NOT WRITE BELOW THIS SECTION

* * * * *

APSIN/WANTS: Clear: _____ Wants: _____ See Attached: _____

NCIC/WANTS: Clear: _____ Wants: _____ See Attached: _____

Criminal History Check (AK) No record found: _____ See Attached: _____

Criminal History Check (other states) No record found: _____ See Attached: _____

Request Granted: _____ Request Denied: _____

Reason for denial: _____

Director/Superintendent (or designee): _____ Date: _____


ALL SEXUAL BEHAVIOR IS PROHIBITED
ZERO-TOLERANCE POLICY
PRISON RAPE ELIMINATION ACT (PREA)

1. Alaska Department of Corrections Policy and Procedure 808.19 Prisoner Rights, Sexual Abuse / Sexual Assault and Reporting establishes a **zero-tolerance** policy toward sexual misconduct and provides guidelines and procedures consistent with the Prison Rape Elimination Act (PREA) to reduce the risk of sexual misconduct within the correctional setting.
2. Sexual assault, sexual misconduct, and sexual harassment, or any type of sexual behaviors are PROHIBITED.
3. Types of Sexual Assault, Misconduct, and Harassment
 - Prisoner-on-employee/contract worker/volunteer
 - Employee/contract worker/volunteer-on-prisoner
 - Prisoner on prisoner
4. Acts of Sexual Assault, Misconduct, and Harassment
 - **There is NO allowable consensual agreement between DOC employees, contract workers, volunteers, or offenders to engage in ANY sexual behavior or act.**
 - The physical act
 - The attempt of the physical act, including inappropriate touching and exhibitionism.
 - Threats, intimidation, and actions/communications meant to coerce or pressure another to engage in the inappropriate act.
 - Retaliation against individuals reporting prohibited sexual behavior is prohibited and punishable.
5. All Department personnel, contractors or volunteers who receive information concerning prisoner sexual misconduct or have reasonable belief to suspect a prisoner is a victim of sexual misconduct or observe an incident or behavior shall immediately report the information to the most appropriate supervisory staff. The information shall be documented on an Incident Report form 809.03A.
6. Prisoners may report allegations of conduct prohibited by Policy and Procedures 808.09, including threats of sexual misconduct to any Department employee, contractor, or volunteer. The such allegation may be reported verbally, in writing, or may be made by a third party.
7. All reports of prohibited sexual behavior will be referred to a law enforcement agency for investigation and referral to the Alaska State Troopers by the Department of Corrections.
8. Privileged communications between ordained clergy, medical or mental health staff, and clients does not extend to the matter that threatens the safety of the institution, staff, or prisoners; if it contains a threat to public safety or if it is specifically addressed by state statutes.
9. Confidentiality: All information related to a victim of sexual abuse or sexual harassment shall be considered confidential and shall be released only to those who need the information to perform their official duties.

I HAVE READ, UNDERSTOOD, AND AGREE WITH THE ABOVE RULES.
*** I also acknowledge that I have been informed of my Prison Rape Elimination Act Responsibilities.***

Name (print and sign)

Date

STATE OF ALASKA Department of Corrections FACILITIES	SUBSTITUTION REQUEST FORM	
---	----------------------------------	---

Project: YKCC Recreational Area Renovations Project No.: 230001184-3

Contractor: _____

Specified item for which substitution is requested (reference the specification section and paragraph):

The following product is submitted for substitution (describe proposed substitution and attach applicable catalog cuts):

I certify the following:

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | The substitute will perform adequately and achieve the results called for by the general design. |
| <input type="checkbox"/> | <input type="checkbox"/> | The substitute is similar, of equal substance, suited to the same use, and will provide the same warranty as the product specified. |
| <input type="checkbox"/> | <input type="checkbox"/> | The evaluation and approval of the proposed substitute will not delay the Substantial or Final Completion of the project. |
| <input type="checkbox"/> | <input type="checkbox"/> | Any change in the design necessitated by the proposed substitution will not delay the Substantial or Final Completion of the project. |
| <input type="checkbox"/> | <input type="checkbox"/> | The cost of any change in the design necessitated by the proposed substitution will be paid by the contractor at no cost to the State. |
| <input type="checkbox"/> | <input type="checkbox"/> | The cost of any license fee or royalty necessitated by the proposed substitution will be paid by the contractor at no cost to the State. |

Signed: _____ Date: _____
Authorized Contractor Signature

Architect/Engineer Recommendation:

- Accepted
 Accepted as Noted
 Not Accepted
 Received Too Late

Remarks:

Architect/Engineer Signature: _____ Date: _____

- Recommend Acceptance
 Recommend Rejection _____ Date: _____
Resident Engineer

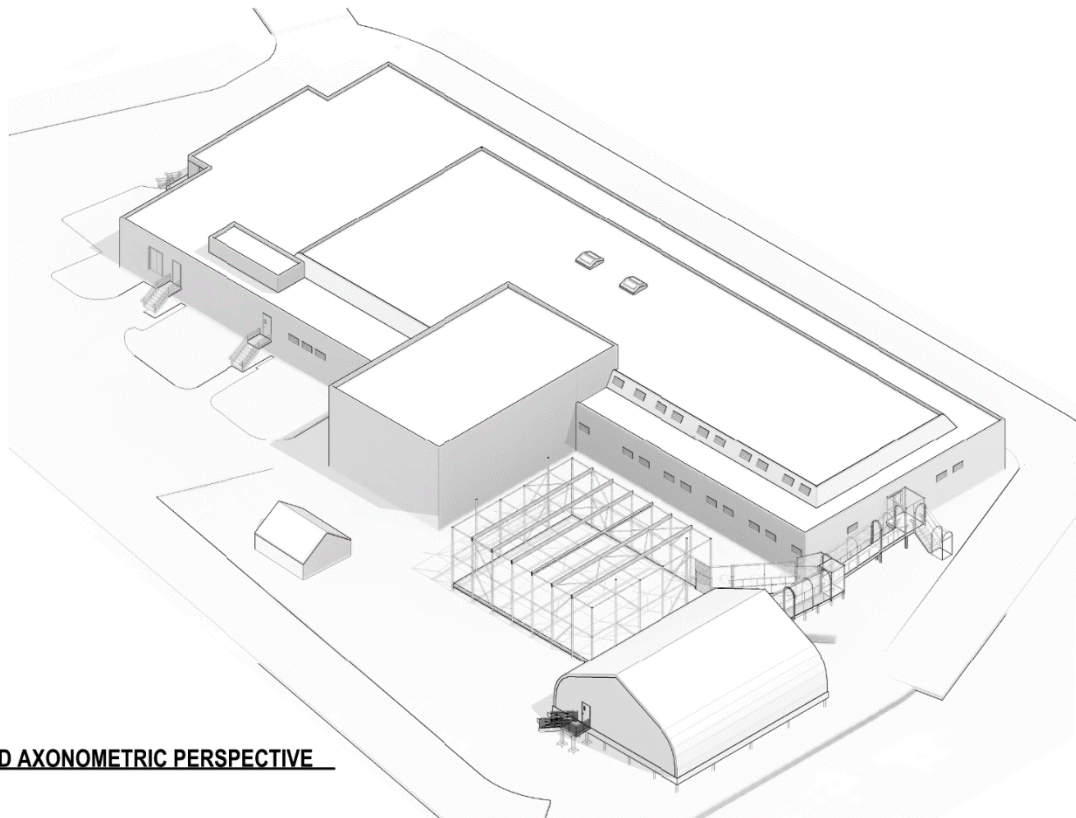
- Accepted
 Rejected _____ Date: _____
Project Manager



Yukon Kuskokwim Correctional Center

Project No. 230001184

Technical Specifications



PROPOSED AXONOMETRIC PERSPECTIVE

Construction Documents

July 19, 2024

RIM

SECTION 00 01 10 – TABLE OF CONTENTS

Division	Section Title	Pages
SPECIFICATIONS GROUP		
<i>Facility Construction Subgroup</i>		
DIVISION 03 - CONCRETE		
03 20 00	CONCRETE REINFORCING	4
03 30 00	CAST-IN-PLACE CONCRETE	13
DIVISION 05 - METALS		
05 12 00	STRUCTURAL STEEL	8
05 50 00	METAL FABRICATIONS	5
05 51 19	METAL GRATING STAIRS AND WALKS	6
DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES		
06 10 00	ROUGH CARPENTRY	6
06 16 00	SHEATHING	3
DIVISION 07 - THERMAL AND MOISTURE PROTECTION		
07 21 00	THERMAL INSULATION	3
07 25 00	WEATHER BARRIERS	2
07 42 13.13	FORMED METAL WALL PANELS	7
07 62 00	SHEET METAL FLASHING AND TRIM	6
07 92 00	JOINT SEALANTS	7
DIVISION 08 - OPENINGS		
08 34 53	SECURITY DOORS AND FRAMES	10
08 71 16	DETENTION DOOR HARDWARE	13
08 80 00	GLAZING	8
DIVISION 09 - FINISHES		
09 22 16	NON-STRUCTURAL METAL FRAMING	3
09 29 00	GYPSON BOARD	5
09 90 00	PAINTING	10
DIVISION 10 - SPECIALTIES		
10 44 16	FIRE EXTINGUISHERS	3
DIVISION 11 - EQUIPMENT		
11 66 23	GYMNASIUM EQUIPMENT	6

DIVISION 13 - SPECIAL CONSTRUCTION

13 31 23 PRE-ENGINEERED FABRIC STRUCTURES

11

END OF TABLE OF CONTENTS

SECTION 03 20 00 - CONCRETE REINFORCING

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 SUMMARY

- A. Section Includes:
 - 1. Welded-wire reinforcement.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Each type of steel reinforcement.
 - 2. Bar supports.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Statements: For inspection agency.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.
- B. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
 - 1. Store reinforcement to avoid contact with earth.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Welded-Wire Reinforcement: ASTM A185 or ASTM A497 plain, fabricated from as-drawn steel wire into flat sheets.

2.2 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.
 - 1. Manufacture bar supports from steel wire, plastic, or precast concrete in accordance with CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - a. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire, all-plastic bar supports, or CRSI Class 2 stainless steel bar supports.
- B. Steel Tie Wire: ASTM A1064/A1064M, annealed steel, not less than 0.0508 inch in diameter.
 - 1. Finish: Plain or Galvanized
- C. Stainless Steel Tie Wire: ASTM A1022/A1022M, not less than 0.0508 inch in diameter.

2.3 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection of In-Place Conditions:
 - 1. Do not cut or puncture vapor retarder.
 - 2. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.2 INSTALLATION OF STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.
- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.
- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Install welded-wire reinforcement in longest practicable lengths.
 - 1. Support welded-wire reinforcement in accordance with CRSI "Manual of Standard Practice."
 - a. For reinforcement less than W4.0 or D4.0, continuous support spacing must not exceed 12 inches.
 - 2. Lap edges and ends of adjoining sheets at least one wire spacing plus 2 inches for plain wire and 8 inches for deformed wire.
 - 3. Offset laps of adjoining sheet widths to prevent continuous laps in either direction.
 - 4. Lace overlaps with wire.

3.3 INSTALLATION TOLERANCES

- A. Comply with ACI 117.

3.4 FIELD QUALITY CONTROL

- A. Special Inspections: Department will engage a special inspector to perform inspections.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform inspections and to submit reports.
- C. Inspections:
 - 1. Steel-reinforcement placement.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

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 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements:
 - 1. Section 032000 "Concrete Reinforcing" for welded-wire reinforcement.
 - 2. Section 033543 "Polished Concrete Finishing" for concrete floors scheduled to receive a polished concrete finish.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.
- C. Product Data: For each of the following.
 - 1. Portland cement.
 - 2. Fly ash.
 - 3. Slag cement.
 - 4. Blended hydraulic cement.
 - 5. Silica fume.
 - 6. Performance-based hydraulic cement
 - 7. Aggregates.
 - 8. Admixtures:
 - a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.
 - 9. Vapor retarders.
 - 10. Floor and slab treatments.
 - 11. Liquid floor treatments.
 - 12. Curing materials.

- a. Include documentation from color pigment manufacturer, indicating that proposed methods of curing are recommended by color pigment manufacturer.
13. Joint fillers.
 14. Repair materials.
- D. Design Mixtures: For each concrete mixture, include the following:
1. Mixture identification.
 2. Minimum 28-day compressive strength.
 3. Durability exposure class.
 4. Maximum w/cm.
 5. Calculated equilibrium unit weight, for lightweight concrete.
 6. Slump limit.
 7. Air content.
 8. Nominal maximum aggregate size.
 9. Steel-fiber reinforcement content.
 10. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
 11. Include manufacturer's certification that permeability-reducing admixture is compatible with mix design.
 12. Include certification that dosage rate for permeability-reducing admixture matches dosage rate used in performance compliance test.
 13. Intended placement method.
 14. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- E. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:
1. Concrete Class designation.
 2. Location within Project.
 3. Exposure Class designation.
 4. Formed Surface Finish designation and final finish.
 5. Final finish for floors.
 6. Curing process.
 7. Floor treatment if any.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
1. Installer: Include copies of applicable ACI certificates.
 2. Ready-mixed concrete manufacturer.
 3. Testing agency: Include copies of applicable ACI certificates.
- B. Material Certificates: For each of the following, signed by manufacturers:
1. Cementitious materials.
 2. Admixtures.
 3. Curing compounds.
 4. Floor and slab treatments.
 5. Bonding agents.
 6. Adhesives.

7. Vapor retarders.
8. Semirigid joint filler.
9. Joint-filler strips.
10. Repair materials.

C. Material Test Reports: For the following, from a qualified testing agency:

1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Blended hydraulic cement.
5. Silica fume.
6. Performance-based hydraulic cement.
7. Aggregates.
8. Admixtures:

- a. Permeability-Reducing Admixture: Include independent test reports, indicating compliance with specified requirements, including dosage rate used in test.

D. Floor surface flatness and levelness measurements report, indicating compliance with specified tolerances.

E. Research Reports:

1. For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
2. For sheet vapor retarder/termite barrier, showing compliance with ICC AC380.

F. Preconstruction Test Reports: For each mix design.

G. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician.

1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.

1. Include the following information in each test report:
 - a. Admixture dosage rates.
 - b. Slump.
 - c. Air content.
 - d. Seven-day compressive strength.
 - e. 28-day compressive strength.
 - f. Permeability.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94/C94M and ACI 301.

1.8 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 301 and ACI 306.1 and as follows.
 - 1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 2. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 3. Do not use frozen materials or materials containing ice or snow.
 - 4. Do not place concrete in contact with surfaces less than 35 deg F, other than reinforcing steel.
 - 5. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

- A. Source Limitations:
 - 1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.
 - 2. Obtain aggregate from single source.
 - 3. Obtain each type of admixture from single source from single manufacturer.
- B. Cementitious Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I/II.
 - 2. Fly Ash: ASTM C618, Class C or F.
 - 3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.
 - 4. Silica Fume: ASTM C1240 amorphous silica.
- C. Normal-Weight Aggregates: ASTM C33/C33M.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
- D. Air-Entraining Admixture: ASTM C260/C260M.
- E. Water and Water Used to Make Ice: ASTM C94/C94M, potable.

2.3 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Curing Paper: Eight-foot- wide paper, consisting of two layers of fibered kraft paper laminated with double coating of asphalt.
- D. Water: Potable or complying with ASTM C1602/C1602M.
- E. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.
- F. Clear, Solvent-Borne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.
- G. Clear, Waterborne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

2.4 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned based on laboratory trial mixture or field test data, or both, in accordance with ACI 301.
 - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Other Pozzolans: 25 percent by mass.
 - 2. Slag Cement: 50 percent by mass.
 - 3. Silica Fume: 10 percent by mass.
 - 4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.
 - 5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

2.5 CONCRETE MIXTURES

- A. Normal-weight concrete used for slab-on-metal-deck.
 - 1. Exposure Class: ACI 318 F2, S0, W0, C0.
 - 2. Minimum Compressive Strength: 4000 psi at 28 days.
 - 3. Maximum w/cm: 0.45.
 - 4. Limit water-soluble, chloride-ion content in hardened concrete to 1.00 by weight of cement.

2.6 CONCRETE MIXING

- A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in accordance with ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.
1. For mixer capacity of 1 cu. Yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
 2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
 2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
1. Daily access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
 4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.3 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.

3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
 - 1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
 - 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.
- B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
 - 1. If a section cannot be placed continuously, provide construction joints as indicated.
 - 2. Deposit concrete to avoid segregation.
 - 3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Do not place concrete floors and slabs in a checkerboard sequence.
 - 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 3. Maintain reinforcement in position on chairs during concrete placement.
 - 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 5. Level concrete, cut high areas, and fill low areas.

6. Slope surfaces uniformly to drains where required.
7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
8. Do not further disturb slab surfaces before starting finishing operations.

3.5 FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

1. ACI 301 Surface Finish SF-3.0:
 - a. Patch voids larger than 3/4 inch wide or 1/2 inch deep.
 - b. Remove projections larger than 1/8 inch.
 - c. Patch tie holes.
 - d. Surface Tolerance: ACI 117 Class A.

3.6 CONCRETE CURING

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with ACI 301 and ACI 306.1 for cold weather protection during curing.
2. Maintain moisture loss no more than 0.2 lb/sq. ft. x h before and during finishing operations.

B. Curing Formed Surfaces: Comply with ACI 308.1 as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
 - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
 - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
 - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
 - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
 - e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 1) Recoat areas subject to heavy rainfall within three hours after initial application.
 - 2) Maintain continuity of coating and repair damage during curing period.
 - 3) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.

- a) Lap edges and ends of absorptive cover not less than 12 inches.
 - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
- 4) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
- a) Water.
 - b) Continuous water-fog spray.
- f. Floors to Receive Curing Compound:
- 1) Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 2) Recoat areas subjected to heavy rainfall within three hours after initial application.
 - 3) Maintain continuity of coating, and repair damage during curing period.
 - 4) Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.
- g. Floors to Receive Curing and Sealing Compound:
- 1) Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 2) Recoat areas subjected to heavy rainfall within three hours after initial application.
 - 3) Repeat process 24 hours later and apply a second coat. Maintain continuity of coating, and repair damage during curing period.

3.7 TOLERANCES

- A. Conform to ACI 117.

3.8 CONCRETE SURFACE REPAIRS

- A. Defective Concrete:

1. Repair and patch defective areas when approved by Architect.
2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

- B. Patching Mortar: Mix dry pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.

- a. Limit cut depth to 3/4 inch.
 - b. Make edges of cuts perpendicular to concrete surface.
 - c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
 - d. Fill and compact with patching mortar before bonding agent has dried.
 - e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.
 - a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
 - b. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces:
1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.
 - a. Correct low and high areas.
 - b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, and cracks more than 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 3. After concrete has cured at least 14 days, correct high areas by grinding.
 4. Correct localized low areas during, or immediately after, completing surface-finishing operations by cutting out low areas and replacing with patching mortar.
 - a. Finish repaired areas to blend into adjacent concrete.
 5. Correct other low areas scheduled to receive floor coverings with a repair underlayment.
 - a. Prepare, mix, and apply repair underlayment and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 - b. Feather edges to match adjacent floor elevations.
 6. Correct other low areas scheduled to remain exposed with repair topping.
 - a. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations.
 - b. Prepare, mix, and apply repair topping and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 7. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete.

- a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a 3/4-inch clearance all around.
 - b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
 - c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
 - d. Place, compact, and finish to blend with adjacent finished concrete.
 - e. Cure in same manner as adjacent concrete.
8. Repair random cracks and single holes 1 inch or less in diameter with patching mortar.
- a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
 - b. Dampen cleaned concrete surfaces and apply bonding agent.
 - c. Place patching mortar before bonding agent has dried.
 - d. Compact patching mortar and finish to match adjacent concrete.
 - e. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.9 FIELD QUALITY CONTROL

- A. Special Inspections: Department will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Department will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
1. Testing agency must be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.
 2. Testing agency must immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
 3. Testing agency must report results of tests and inspections, in writing, to Department, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
 - a. Test reports must include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.
 - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.

- 9) Design compressive strength at 28 days.
- 10) Concrete mixture designation, proportions, and materials.
- 11) Field test results.
- 12) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
- 13) Type of fracture and compressive break strengths at seven days and 28 days.

C. Inspections:

1. Headed bolts and studs.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.

D. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M must be performed in accordance with the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing must be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C143/C143M:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C1064/C1064M:
 - a. One test hourly when air temperature is 40 deg F (4.4 deg C) and below and one test for each composite sample.
5. Compression Test Specimens: ASTM C31/C31M:
 - a. Cast, initial cure, and field cure two sets of two standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C39/C39M.
 - a. Test one set of two laboratory-cured specimens at seven days and one set of two specimens at 28 days.
 - b. Test one set of two field-cured specimens at seven days and one set of two specimens at 28 days.

- c. A compressive-strength test must be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor must evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.
 9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
 10. Additional Tests:
 - a. Testing and inspecting agency must make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
 - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.
 - 1) Acceptance criteria for concrete strength must be in accordance with ACI 301, section 1.6.6.3.
 11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 12. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- E. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 24 hours of completion of floor finishing and promptly report test results to Architect.

3.10 PROTECTION

- A. Protect concrete surfaces as follows:
1. Protect from petroleum stains.
 2. Diaper hydraulic equipment used over concrete surfaces.
 3. Prohibit vehicles from interior concrete slabs.
 4. Prohibit use of pipe-cutting machinery over concrete surfaces.
 5. Prohibit placement of steel items on concrete surfaces.
 6. Prohibit use of acids or acidic detergents over concrete surfaces.
 7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

END OF SECTION

SECTION 05 12 00 - STRUCTURAL STEEL FRAMING

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 SUMMARY

- A. Section Includes:
 - 1. Structural steel.
 - 2. Prefabricated building columns.
 - 3. Shear stud connectors.
 - 4. Shrinkage-resistant grout.
- B. Related Requirements:
 - 1. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other steel items not defined as structural steel.
 - 2. Section 133419 "Metal Building Systems" for structural steel.

1.3 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in ANSI/AISC 303.

1.4 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.5 ACTION SUBMITTALS

- A. Product Data:
 - 1. Structural-steel materials.
 - 2. High-strength, bolt-nut-washer assemblies.
 - 3. Shear stud connectors.
 - 4. Anchor rods.
 - 5. Threaded rods.

6. Forged-steel hardware.
7. Prefabricated building columns.
8. Shop primer.
9. Galvanized-steel primer.
10. Etching cleaner.
11. Galvanized repair paint.
12. Shrinkage-resistant grout.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment Drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
5. Identify members and connections of the seismic-load-resisting system.
6. Indicate locations and dimensions of protected zones.
7. Identify demand-critical welds.
8. Identify members not to be shop primed.

C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide in accordance with AWS D1.1/D1.1M for each welded joint whether prequalified or qualified by testing, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for demand-critical welds.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and fabricator.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural-steel materials, including chemical and physical properties.
- E. Product Test Reports: For the following:
 1. Bolts, nuts, and washers, including mechanical properties and chemical analysis.
 2. Direct-tension indicators.
 3. Tension-control, high-strength, bolt-nut-washer assemblies.
 4. Shear stud connectors.
- F. Survey of existing conditions.
- G. Source quality-control reports.
- H. Field quality-control reports.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category BU or is accredited by the IAS Fabricator Inspection Program for Structural Steel (Acceptance Criteria 172).
- B. Installer Qualifications: A qualified Installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector.
- C. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds must pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G must be considered separate processes for welding personnel qualification.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Departments testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F3125/F3125M, Grade F1852 bolt assemblies and for retesting bolt assemblies after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with applicable provisions of the following specifications and documents:
 - 1. ANSI/AISC 303.
 - 2. ANSI/AISC 341.
 - 3. ANSI/AISC 360.
 - 4. RCSC's "Specification for Structural Joints Using High-Strength Bolts."
- B. Connection Design Information:
 - 1. Option 1: Connection designs have been completed and connections indicated on the Drawings.
- C. W-Shapes: ASTM A992 Grade 50.

- D. Channels, Angles: ASTM A36
- E. Plate and Bar: ASTM A36.
- F. Cold-Formed Hollow Structural Sections: ASTM A500 Grade C structural tubing.
- G. Steel Pipe: ASTM A53/A53M, Grade B.
 - 1. Weight Class: As indicated.
 - 2. Finish: Galvanized.
- H. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS AND CONNECTORS

- A. High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125, Grade A325, Type 1, heavy-hex steel structural bolts; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
- B. Zinc-Coated High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125, Grade A325, Type 1, heavy-hex steel structural bolts; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436, Type 1, hardened carbon-steel washers.
- C. Shear Stud Connectors: ASTM A108, AISI C-1015 through C-1020, headed-stud type, cold-finished carbon steel; AWS D1.1, Type B.

2.3 PRIMER

- A. Steel Primer:
 - 1. Comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
 - 2. SSPC-Paint 23, latex primer.
 - 3. Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

2.4 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate in accordance with ANSI/AISC 303 and to ANSI/AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel in accordance with ASTM A6/A6M and maintain markings until structural-steel framing has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted in accordance with SSPC-SP 3.
- F. Shear Stud Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Weld using automatic end welding of headed-stud shear connectors in accordance with AWS D1.1/D1.1M and manufacturer's written instructions.

2.5 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.

2.6 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel in accordance with ASTM A123/A123M.
 - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.
 - 2. Galvanize lintels shelf angles and welded door frames attached to structural-steel frame and located in exterior walls.

2.7 SOURCE QUALITY CONTROL

- A. Testing Agency: Department will engage a qualified testing agency to perform shop tests and inspections.
 - 1. Allow testing agency access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
 - 2. Bolted Connections: Inspect shop-bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
 - 3. Welded Connections: Visually inspect shop-welded connections in accordance with AWS D1.1 and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E165/E165M.
 - b. Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - c. Ultrasonic Inspection: ASTM E164.
 - d. Radiographic Inspection: ASTM E94/E94M.

4. In addition to visual inspection, test and inspect shop-welded shear stud connectors in accordance with requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - a. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear stud connector.
 - b. Conduct tests in accordance with requirements in AWS D1.1/D1.1M on additional shear stud connectors if weld fracture occurs on shear stud connectors already tested.
5. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated on Drawings.
 1. Do not remove temporary shoring supporting composite deck construction and structural-steel framing until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and in accordance with ANSI/AISC 303 and ANSI/AISC 360.
- B. Baseplates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 2. Weld plate washers to top of baseplate.
 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 4. Promptly pack shrinkage-resistant grout solidly between bearing surfaces and plates, so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for grouting.

- C. Maintain erection tolerances of structural steel within ANSI/AISC 303.
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure. Slope roof framing members to slopes indicated on Drawings.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt and joint type specified.
 - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with ANSI/AISC 303 and ANSI/AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in ANSI/AISC 303 for mill material.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Department will engage a special inspector to perform the following special inspections:
 - 1. Verify structural-steel materials and inspect steel frame joint details.
 - 2. Verify weld materials and inspect welds.
 - 3. Verify connection materials and inspect high strength bolted connections.
- B. Testing Agency: Department will engage a qualified testing agency to perform tests and inspections.
 - 1. Bolted Connections: Inspect bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
 - 2. Welded Connections: Visually inspect field welds in accordance with AWS D1.1/D1.1M.

- a. In addition to visual inspection, test and inspect field welds in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1) Liquid Penetrant Inspection: ASTM E165/E165M.
 - 2) Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - 3) Ultrasonic Inspection: ASTM E164.
 - 4) Radiographic Inspection: ASTM E94/E94M.

3.6 PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing, and repair galvanizing to comply with ASTM A780/A780M.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing, and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 1. Clean and prepare surfaces by SSPC-SP 3 power-tool cleaning.
- C. Touchup Priming: Cleaning and touchup priming are specified in Section 099600 "High-Performance Coatings."

END OF SECTION

SECTION 05 50 00 - METAL FABRICATIONS

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 SUMMARY

- A. Section Includes:
 - 1. Steel framing and supports for swinging detention doors.
 - 2. Fencing and fence supports.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

1.4 ACTION SUBMITTALS

- A. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:
 - 1. Steel framing and supports for swinging detention doors.

1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.
- D. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G60 coating designation.
- E. Chain-link Fencing: Provide fence fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist according to "CLFMI Product Manual" and requirements indicated below:
 - 1. Fabric Height: As indicated on Drawings.
 - 2. Steel Wire for Fabric: Wire diameter of 0.113 inch.
 - a. Mesh Size: 2 inches.
 - b. Zinc-Coated Fabric: ASTM A 392, Type II, Class 1, 1.2 oz./sq. ft. with zinc coating applied before weaving.
 - 3. Selvage: Knuckled at bottom edge.

2.2 FASTENERS

- A. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 563; and, where indicated, flat washers.
- B. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
- C. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.
- D. Post-Installed Anchors: Torque-controlled expansion anchors.
 - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5.

2.3 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- H. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

2.5 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

2.6 STRUCTURAL-STEEL DOOR SUPPORTS

- A. Fabricate structural-steel door supports from steel shapes, plates, and bars of size and to dimensions indicated, fully welded together. Continuously weld joints.

2.7 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.8 STEEL AND IRON FINISHES

- A. Shop prime iron plates and tubing steel items with universal shop primer.
- B. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 3, "Power Tool Cleaning."
- C. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts through bolts, and other connectors.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.3 CHAIN-LINK FENCE INSTALLATION

- A. Secure fencing fabric to metal supports with spanner head screws and metallic cable securement clips.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

END OF SECTION

SECTION 05 51 19 - METAL GRATING STAIRS AND WALKS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal grating stairs.
 - 2. Steel railings and guards.

1.2 COORDINATION

- A. Coordinate installation of anchorages for metal stairs, railings, and guards.

1.3 ACTION SUBMITTALS

- A. Product Data: For metal grating stairs and the following:
 - 1. Gratings.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, details, and attachment to other work.
 - 2. Indicate sizes of metal sections, thickness of metals, profiles, holes, and field joints.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification.
 - 1. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers.
 - 2. Protect steel members and packaged materials from corrosion and deterioration.
 - 3. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures.
 - a. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance of Stairs: Metal stairs withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Uniform Load: 100 lbf/sq. ft..
 2. Concentrated Load: 300 lbf applied on an area of 4 sq. in..
 3. Uniform and concentrated loads need not be assumed to act concurrently.
 4. Stair Framing: Capable of withstanding stresses resulting from railing and guard loads in addition to loads specified above.
 5. Limit deflection of treads, platforms, and framing members to $L/360$.
- B. Structural Performance of Railings and Guards: Railings and guards, including attachment to building construction, withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..
 - b. Infill load and other loads need not be assumed to act concurrently.
 3. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - a. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 METALS

- A. Metal Surfaces: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- C. Steel Tubing for Railings and Guards: ASTM A500/A500M (cold formed) or ASTM A513/A513M.
1. Provide galvanized finish for exterior installations.

2.3 FASTENERS

- A. General: Provide zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 12 for exterior use, and Class Fe/Zn 5.
 - 1. Select fasteners for type, grade, and class required.
- B. Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A; with hex nuts, ASTM A563; and, where indicated, flat washers.

2.4 MISCELLANEOUS MATERIALS

- A. Welding Electrodes: Comply with AWS requirements.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with ASTM A780/A780M and compatible with paints specified to be used over it.

2.5 FABRICATION, GENERAL

- A. Provide complete stair assemblies, including metal framing railings, guards, clips, brackets, anchorage plates, and other components necessary to support and anchor stairs and platforms on supporting structure.
 - 1. Join components by welding except guards and rails may be bolted.
 - 2. Use connections that maintain structural value of joined pieces.
- B. Assemble stairs, railings, and guards in shop to greatest extent possible.
 - 1. Disassemble units only as necessary for shipping and handling limitations.
 - 2. Clearly mark units for reassembly and coordinated installation.
- C. Cut, drill, and punch metals cleanly and accurately.
 - 1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
 - 2. Remove sharp or rough areas on exposed surfaces.
- D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Form exposed work with accurate angles and surfaces and straight edges.
- F. Weld connections to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. Weld exposed corners and seams continuously unless otherwise indicated.
 - 5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Finish #4 - Good quality, uniform undressed weld with minimal splatter.

- G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible.
 - 1. Locate joints where least conspicuous.
 - 2. Fabricate joints that are exposed to weather in a manner to exclude water.
 - 3. Provide weep holes where water may accumulate internally.

2.6 FABRICATION OF STEEL-FRAMED STAIRS

- A. NAAMM Stair Standard: Comply with NAAMM AMP 510, "Metal Stairs Manual," for Industrial Class, unless more stringent requirements are indicated.
- B. Stair Framing:
 - 1. Fabricate stringers of steel plates or channels.
 - a. Stringer Size: As indicated on Drawings.
 - b. Finish: Galvanized.
- C. Metal Bar-Grating Stairs: Form treads and platforms to configurations shown from metal bar grating; fabricate to comply with NAAMM MBG 531, "Metal Bar Grating Manual."
 - 1. Fabricate treads and platforms from welded steel grating with **[1-1/4-by-3/16-inch bearing bars at 15/16 inch o.c.] [1-by-3/16-inch bearing bars at 11/16 inch o.c.] [1-by-1/8-inch bearing bars at 7/16 inch o.c.]** and crossbars at 4 inches o.c.
 - 2. Fabricate treads with nosing and with steel angle or steel plate carrier at each end for stringer connections.
 - a. Secure treads to stringers with welds or bolts.
- D. Risers: Open.

2.7 FABRICATION OF STAIR RAILINGS AND GUARDS

- A. Fabricate railings and guards to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of member, post spacings, wall bracket spacing, and anchorage, but not less than that needed to withstand indicated loads.
 - 1. Rails and Posts: 1-5/8-inch-diameter top and bottom rails.
 - 2. Intermediate Rails Infill: 1-5/8-inch-diameter intermediate rails spaced less than 21 inches clear.
- B. Welded Connections: Fabricate railings and guards with welded connections.
 - 1. Fabricate connections that are exposed to weather in a manner that excludes water.
 - a. Provide weep holes where water may accumulate internally.
 - 2. Cope components at connections to provide close fit, or use fittings designed for this purpose.
 - 3. Weld all around at connections, including at fittings.

4. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 5. Obtain fusion without undercut or overlap.
 6. Remove flux immediately.
 7. Finish welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Finish #4 - Good quality, uniform undressed weld with minimal splatter as shown in NAAMM AMP 521.
- C. Form changes in direction of railings and guards as follows:
1. By bending.
- D. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required.
1. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

2.8 FINISHES

- A. Finish metal stairs after assembly.
- B. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify elevations of floors, bearing surfaces and locations of bearing plates, and other embedments for compliance with requirements.
 1. For wall-mounted railings, verify locations of concealed reinforcement within gypsum board and plaster assemblies.

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

3.2 INSTALLATION OF METAL STAIRS

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal stairs to in-place construction.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal stairs. Set units accurately in location, alignment, and elevation, measured from established lines and levels and free of rack.

3.3 INSTALLATION OF RAILINGS AND GUARDS

- A. Adjust railing and guard systems before anchoring to ensure matching alignment at abutting joints with tight, hairline joints.
 - 1. Space posts at spacing indicated or, if not indicated, as required by design loads.
 - 2. Plumb posts in each direction, within a tolerance of 1/16 inch in 3 feet.
 - 3. Align rails and guards so variations from level for horizontal members and variations from parallel with rake of stairs for sloping members do not exceed 1/4 inch in 12 feet.
 - 4. Secure posts, rail ends, and guard ends to building construction as follows:
 - a. Anchor posts to steel by bolting to steel supporting members.

3.4 REPAIR

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION

SECTION 061000 - ROUGH CARPENTRY

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 SUMMARY

- A. Section Includes:
 - 1. Framing with dimension lumber.
 - 2. Framing with timber.
 - 3. Wood blocking and nailers.
 - 4. Wood furring.
 - 5. Wood sleepers.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.
- E. Timber: Lumber of 5 inches nominal size or greater in least dimension.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Metal framing anchors.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
 - 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium
 - 2. For exposed items indicated to receive a stained or natural finish, chemical formulations must not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
- D. Application: Treat all rough carpentry unless otherwise indicated.

2.3 DIMENSION LUMBER FRAMING

- A. Joists and other framing not listed below: No. 2.
1. Species:
 - a. Douglas fir-larch; WCLIB or WWPA.
 - b. Hem-fir; WCLIB or WWPA.
 - c. Douglas fir-larch (north); NLGA.

2.4 TIMBER FRAMING

- A. Comply with the following requirements, according to grading rules of grading agency indicated:
1. Species and Grade: Douglas fir-larch, Douglas fir-larch (north); No. 1 grade; NLGA, WCLIB, or WWPA.
 2. Additional Restriction: Free of heart centers.

2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
 2. Nailers.
 3. Cants.
 4. Furring.
 5. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used if it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.6 FASTENERS

- A. General: Fasteners must be of size and type indicated and must comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches (2438 mm) o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
 4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.
- G. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

- H. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- I. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- J. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- K. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- L. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
 - 1. Comply with indicated fastener patterns where applicable. Before fastening, mark fastener locations, using a template made of sheet metal, plastic, or cardboard.
 - 2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
 - 3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 INSTALLATION OF TIMBER FRAMING

- A. Install timber beams with crown edge up and provide not less than 4 inches of bearing on supports. Provide continuous members unless otherwise indicated; tie together over supports as indicated if not continuous.
- B. Where beams or girders are framed into pockets of exterior concrete or masonry walls, provide 1/2-inch airspace at sides and ends of wood members.
- C. Install wood posts using metal anchors indicated.
- D. Treat ends of timber beams and posts exposed to weather by dipping in water-repellent preservative for 15 minutes.

3.3 INSTALLATION OF STAIR FRAMING

- A. Provide stair framing members of size, space, and configuration indicated or, if not indicated, to comply with the following requirements:
 - 1. Size: 4-by-12-inch nominal size, minimum.

- 2. Material: solid lumber.
- B. Provide stair framing with no more than 3/16-inch variation between adjacent treads and risers and no more than 3/8-inch variation between largest and smallest treads and risers within each flight.

3.4 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

SECTION 06 16 00 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wall sheathing.
- B. Related Requirements:
 - 1. Section 06 10 00 "Rough Carpentry" for plywood backing panels.
 - 2. Section 07 25 00 "Weather Barriers" for water-resistive barrier applied over wall sheathing.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Wall sheathing.
- B. Product Data Submittals: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
 - 2. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5516.
 - 3. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 4. For air-barrier and water-resistant glass-mat gypsum sheathing, include manufacturer's technical data and tested physical and performance properties of products.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Fire-retardant-treated plywood.
- B. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications:
 - 1. For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested in accordance with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

- A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- B. Factory mark panels to indicate compliance with applicable standard.

2.3 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested in accordance with ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.

3. Design Value Adjustment Factors: Treated lumber plywood is to be tested in accordance with ASTM D5516 and design value adjustment factors are to be calculated in accordance with ASTM D6305. Span ratings after treatment are to be not less than span ratings specified.
- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat all wall plywood.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 1. For wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Power-Driven Fasteners: NES NER-272.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 1. Table 2304.10.1, "Fastening Schedule," in the ICC's International Building Code.
 2. NES NER-272 for power-driven fasteners

END OF SECTION

SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Molded (expanded) polystyrene foam-plastic board insulation.
 - 2. Glass-fiber blanket insulation.

1.2 ACTION SUBMITTALS

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

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- B. Research Reports: For foam-plastic insulation, from ICC-ES.

1.4 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 until just before installation time.
 - 3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes less than Class C, 200 and 450 when tested in accordance with ASTM E84.

2.2 MOLDED (EXPANDED) POLYSTYRENE FOAM-PLASTIC BOARD INSULATION (EPS)

- A. Molded (Expanded) Polystyrene Board Insulation, Type XIV: ASTM C578, Type XIV, 40 psi minimum compressive strength.

2.3 GLASS-FIBER BLANKET INSULATION

- A. Glass-Fiber Blanket Insulation, Unfaced: ASTM C665, Type I; passing ASTM E136 for combustion characteristics.

2.4 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
 - 1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.
 - 2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or those that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products, applications and applicable codes.
- 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. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members in accordance with 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.

- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Detailing Foam Insulation for Voids: Apply in accordance with manufacturer's written instructions.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.

END OF SECTION

SECTION 07 25 00 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Building wrap.
 2. Flexible flashing.

1.2 ACTION SUBMITTALS

- A. Product Data:
1. For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For water-resistive barrier and flexible flashing, from ICC-ES.

PART 2 - PRODUCTS

2.1 WEATHER BARRIERS

- A. Commercial Building Wrap: ASTM E2357 passed, ABAA (Air Barrier Association of America) evaluated air barrier assembly, without integral drainage
1. Water Resistance: ASTM E331
 2. Air Permeance, Product: Not more than 0.001 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.005 L/s x sq. m at 75 Pa) when tested in accordance with ASTM E2178.
 3. Water Penetration Resistance, Product: Hydrostatic head resistance greater than 7.7 ft. (2.35 m) in accordance with AATTC 127.
 4. Water Penetration Resistance, Assembly: Assembly wall specimen described in ASTM E2357 to water resistance in accordance with ASTM E331 to 6.24 lbf/sq. ft. (300 Pa).
 5. Water-Vapor Permeance: Not less than 23 perms (1300 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Desiccant Method (Procedure A) or not less than 28 perms (1600 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Water Method (Procedure B).
 6. Allowable UV Exposure Time: Not less than nine months when tested in accordance with ASTM G 155 (Accelerated Weathering).
 7. Flame Propagation Test: Materials and construction shall be as tested in accordance with NFPA 285.
 8. Basis Weight: Minimum 2.4 oz/yd², when tested in accordance with TAPPI Test Method T-410.
 9. Minimum Tensile Strength: ASTM D412, 165 lb/sq. ft. (1140 kPa).
 10. Minimum Elongation at Break: ASTM D412; 360 percent.

2.2 FLEXIBLE FLASHING

- A. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.040 inch.
 - 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. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Vycor Butyl Self Adhered Flashing.
 - b. Raven Industries Inc.; Fortress Flashshield.
 - c. Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
 - d. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Vycor V40 Self-Adhered Flashing.
- B. Nails and Staples: Product recommended in writing by flexible flashing manufacturer and complying with ASTM F 1667.

PART 3 - EXECUTION

3.1 INSTALLATION OF WEATHER BARRIERS

- A. Weather Barriers:
 - 1. Building Wrap or Drainage Wrap: Comply with manufacturer's written instructions and warranty requirements.
- B. Install weather barrier accessories for a complete installation with weather barriers in accordance with manufacturers written instructions.

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 into sides of openings.
 - 4. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

END OF SECTION

SECTION 07 42 13.13 - FORMED METAL WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exposed-fastener, lap-seam metal wall and soffit panels.

1.2 ACTION SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
 - 1. Exposed-fastener, lap-seam metal wall panels.
- B. Samples for Initial Selection: For each type of metal panel indicated with factory-applied finishes.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For exposed-fastener, lap-seam metal wall panels, for tests performed by a qualified testing agency.
- B. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

- A. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

- D. Retain strippable protective covering on metal panels during installation.

1.6 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.7 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems 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: Two years from date of Substantial Completion.

- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal 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 Delta E units when tested according to ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
 - 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 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Deflection Limits: For wind loads, no greater than 1/180 of the span.

- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E283 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft..
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft..
- D. 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.
- E. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 EXPOSED-FASTENER, LAP-SEAM METAL WALL PANELS

- A. Provide factory-formed metal panels designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
- B. Corrugated-Profile, Exposed-Fastener Metal Wall Panels: Formed with alternating curved ribs spaced at 2.67 inches o.c. across width of panel.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AEP Span; A BlueScope Steel Company; Nu-Wave Corrugated.
 - b. Fabral; 7/8" Corrugated,
 - c. Metal Sales Manufacturing Corporation; 7/8" Corrugated,
 - d. PAC-CLAD; Petersen Steel; 7/8-inch Corrugated.
 - 2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A792/A792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
 - a. Nominal Thickness: 0.024 inch
 - b. Exterior Finish: Two-coat fluoropolymer.
 - c. Color: As indicated by manufacturer's designations.

2.3 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 - 1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, corners. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - 2. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.4 FABRICATION

- A. Fabricate and finish metal panels and accessories at the factory, 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.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs for full length of panel.

- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to 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. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 3. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.5 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. 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 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.
- C. Steel Panels and Accessories:
 - 1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 - 1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.

2. Examine 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.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.3 INSTALLATION OF METAL PANELS

- A. Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Locate and space fastenings in uniform vertical and horizontal alignment.
 4. Install flashing and trim as metal panel work proceeds.
 5. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 6. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
 1. Steel Panels: Use stainless steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
 1. Lap ribbed or fluted sheets one full rib. Apply panels and associated items true to line for neat and weathertight enclosure.
 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.

3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
5. Flash and seal panels with weather closures at perimeter of all openings.

E. Watertight Installation:

1. Apply a continuous ribbon of sealant or tape to seal lapped joints of metal panels, using sealant or tape as recommend by manufacturer on side laps of nesting-type panels; and elsewhere as needed to make panels watertight.
2. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
3. At panel splices, nest panels with minimum 6-inch end lap, sealed with sealant.

F. Accessory Installation: 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 panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal wall panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.

G. 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 are permanently watertight.

1. Install exposed flashing and trim that is without 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 achieve waterproof performance.
2. 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 waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

3.4 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films as metal panels are installed,. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 13.13

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 General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes: Custom flashing and trim fabrications, made from the following:
 - 1. Sheet metal materials.
 - 2. Underlayment.
 - 3. Miscellaneous materials.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Plans, elevations, sections, and attachment details.
 - 2. Fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
 - 3. Identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Details for forming, including profiles, shapes, seams, and dimensions.
 - 5. Details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 6. Details of termination points and assemblies.
 - 7. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
- C. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors for each type of exposed finish.

1.4 1.4QUALITY ASSURANCE

- A. Fabricator Qualifications: Entity 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.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
 - 1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
 - 2. Protect stored sheet metal flashing and trim from contact with water.
- D. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.6 WARRANTY

- A. Special Warranty on Finishes: 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 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - 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 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, are to 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 are not to rattle, leak, or loosen, and are to remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METAL MATERIALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with minimum ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with minimum ASTM A792/A792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
 - 1. Surface: Smooth, flat.
 - 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 3. Color: Match color of exterior building face.
 - 4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.

2.3 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as 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.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
 - 2. Fasteners for Zinc-Coated (Galvanized) or Aluminum-Zinc Alloy-Coated Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel in accordance with ASTM A153/A153M or ASTM F2329/F2329M.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, 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 C920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

- E. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

2.4 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
 - 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. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 - 3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances:
 - 1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 ft. on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed 1/2 inch to form drip. Miter and seam corners.
- D. Expansion Provisions: Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Lapped or bayonet-type joints are permitted in flashings.
- E.
- F. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.

2.5 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high, end dams. Fabricate from the following materials:
 - 1. Aluminum-Zinc Alloy-Coated Steel: 0.024 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrates, 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.
 - 3. Verify that air- or water-resistant barriers have been installed over substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF SHEET METAL FLASHING AND TRIM, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of sealant.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 6. Do not field cut sheet metal flashing and trim by torch.
 - 7. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 ft. with no joints within 24 inches of corner or intersection. At concealed flashings or flashings, provide joints lapped 6-inches with two rows of sealant in joints.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F.
 - 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."

3.3 INSTALLATION OF WALL SHEET METAL FABRICATIONS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

3.4 INSTALLATION TOLERANCES

- A. Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 ft. on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.5 CLEANING

- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.

3.6 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. 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, as determined by Architect.

END OF SECTION

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Urethane joint sealants.
 - 2. Butyl joint sealants.
- B. Related Requirements:

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Urethane joint sealants.
 - 2. Butyl joint sealants.
- B. Samples for Initial Selection: Manufacturer's standard color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.3 INFORMATIONAL SUBMITTALS

- A. Manufacturer's Installation Instructions: Indicate special procedures, surface preparations, and perimeter conditions requiring special attention.
- B. Field Quality-Control Reports: For field-adhesion-test reports, for each sealant application tested.
- C. Sample warranties.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.5 FIELD 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.

1.6 WARRANTY

- A. Special Installer's Warranty: 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.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion for urethane sealants.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain joint sealants from single manufacturer for each sealant type.

2.2 JOINT SEALANTS, 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.

2.3 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 25, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, pick-proof, urethane joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.
 - 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. Pecora Corporation: DynaFlex SC
 - b. Surebond: SB-190 Everseal
 - c. Sika: Sikaflex -11FC
 - 2. Applications: Wall applications as follows:
 - a. Exposed metal to metal joints.
 - b. All interior joints.

2.4 BUTYL JOINT SEALANTS

- A. Butyl-Rubber-Based Joint Sealants: ASTM C1311.
 - 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. Bostik, Inc.; Chem-Calk 300
 - b. Pecora Corp.; BC-158
 - c. Tremco Incorporated; Tremco Butyl Sealant
 - 2. Applications: Wall applications as follows:
 - a. Exterior concealed metal to metal joints.
 - b. Bedding joints for flashings and thresholds.

2.5 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 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 performance of the Work.
- 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 porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Wood.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.

- 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 C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type 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. Oversize backing 30 to 50 percent of joint width.
 - 2. Do not leave gaps between ends of sealant backings.
 - 3. Do not stretch, twist, puncture, or tear sealant backings.
 - 4. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants in accordance with 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 in accordance with Figure 8A in ASTM C1193 unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 - a. Extent of Testing: Test completed and cured sealant joints as follows:
 - b. Test Method: Test joint sealants in accordance with Method A, Tail Procedure, in ASTM C1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 - c. Inspect tested joints and report on the following:
 - 1) Whether sealants filled joint cavities and are free of voids.
 - 2) Whether sealant dimensions and configurations comply with specified requirements.
 - 3) Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 - d. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
 - e. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
2. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 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.
- B. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.6 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, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 07 92 00

SECTION 07 25 00 – SECURITY DOORS AND FRAMES

PART 1 - - GENERAL

1.1 DESCRIPTION

- A. Description of Work: The extent of the work is referenced on the drawings and specified in this document. The section includes the purchase, transporting and installation of interior and exterior security doors and frames. Work will take place in a new building on the site of a fully operational prison.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Exterior security steel doors and frames.
- B. Product Data Submittals: For each product.
 - 1. Include construction details, material descriptions, core descriptions, and finishes.
- C. Shop Drawings: Include the following:
 - 1. Elevations of each door type.
 - 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 electrical raceway and preparation for electrified hardware, access control systems, and security systems.
 - 7. Details of anchorages, joints, field splices, and connections.
 - 8. Details of accessories.
 - 9. Details of moldings, removable stops, and glazing.
- D. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.3 INFORMATIONAL SUBMITTALS

- A. Testing and Performance Reports: For security doors and frames.
- B. Certificate of Acceptance: Document signed by security door manufacturer that supplier is trained and endorsed by the manufacturer and that the installer is certified to install that manufacturer's doors and frames.
- C. Reference: Letter describing a minimum of five door installation projects in which door installer has completed work. List facility, name of reference, individual, and contact information.

- D. Certificates of Training: Documentation describing a minimum of two installers from door manufacturer that the individuals were trained and authorized to install security doors and frames manufactured by door manufacturer.

1.4 QUALITY ASSURANCE

- A. ASTM A1008/A1008M-03, Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
- B. ASTM A1011/A1011M-03, Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
- C. ASTM A653/A653M-02, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dipped Process, (Commercial Steel).
- D. ASTM C143/C143M-00, Standard test Method for slump of Hydraulic Cement Concrete.
- E. ANSI A250.10 – 1998, Standard Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
- F. ASTM F1450-97 (2004), Standard Test methods for Hollow Metal Swinging Door Assemblies for Detention and Correctional Facilities.
- G. ASTM F1592-01, Standard Test Methods for Detention Hollow Metal Vision Systems.
- H. ANSI / NAAMM HMMA 801-98, Glossary of Terms for Hollow Metal Doors and Frames.
- I. NAAMM HMMA 803-98, Steel Tables.
- J. NAAMM HMMA 820-87, Hollow Metal Frames.
- K. HMMA-820 TN01-03, Grouting Hollow Metal Frames.
- L. NAAMM HMMA 840-99, Installation and Storage of Hollow Metal Doors and Frames.
- M. UL 1784-01, Air Leakage Tests of Door Assemblies, 3rd Edition.

1.5 TESTING AND PERFORMANCE

- A. Provide Performance test requirements for each opening shall be as indicated for individual grade number designations shown in the tables in ASTM F1450 and ASTM F1592. Test procedures shall be performed on door and frame designs as described below.

B. Door Assembly Impact Test:

1. Two 3-foot by 7-foot doors shall be constructed in accordance with Article 2.1, each with 100 square inch vision panel, 4 inch by 25 inch clear opening positioned generally as shown in ASTM F1450, Figure 1. Doors shall have a maximum weight for Grades 1 and 2 of 230 lbs and for Grades 3 and 4 of 190 lbs. Two accompanying frames shall be constructed in accordance with Article 2.3. One door and frame assembly shall be equipped with hardware in accordance with ASTM F1450, Section 6.1.1.3. The other assembly shall be equipped with hardware in accordance with ASTM F1450, Section 6.1.1.4. Test doors and frames shall be installed and tested in accordance with ASTM F1450, Section 6, "Specimen Preparation" and Section 7.2, "Door Assembly Impact Test." The test assemblies shall meet the acceptance criteria in Section 7.2 in order to qualify under this Specification.

C. Detention Hollow Metal Vision System Impact Test in Accordance with ASTM F1592:

1. A four (4) equal light multi-light security hollow metal assembly, overall dimensions of 50 inch width by 50 inch height, shall be constructed in accordance with this Specification, Article 2.3, and shall be impact tested in accordance with ASTM F1592, Sections 5, 6 and 7.2. The test assembly shall meet the acceptance criteria in Section 7.2 in order to qualify under this Specification.
2. A single sidelight security hollow metal assembly, door dimensions 3 feet by 7 feet and sidelight dimensions with clear opening size of 28 inches wide by 33 inches high plus or minus 1 inch, shall be constructed in accordance with Articles 2.1 and 2.3, and shall be impact tested in accordance with ASTM F1592, Sections 5, 6, and 7.2. The test assembly shall meet the acceptance criteria in Section 7.2 in order to qualify under this Specification.

D. Door Static Load Test

1. Two (2) doors constructed identically to each of the test doors required for Article 1.5, Paragraph A, "Door Assembly Impact Test," 3 feet by 7 feet, with 4 inch by 25 inch vision panel, and with hardware preparations, shall be tested in accordance with ASTM F1450, Section 7.3, "Door Static Load Test." The test doors shall meet the acceptance criteria in Section 7.3 in order to qualify under this Specification.

E. Door Rack Test

1. Two (2) doors constructed identically to each of the test doors required in Article 1.05, Paragraph A, "Door Assembly Impact Test," 3 feet by 7 feet, with 4 inch by 25 inch vision panel, and with hardware preparations shall be tested in accordance with ASTM F1450, Section 7.4, "Door Rack Test." The test doors shall meet the acceptance criteria in Section 7.4 in order to qualify under this Specification.

F. Door Edge Crush Test

1. One (1) door constructed identically to either of the test doors required in Article 1.5, Paragraph A, "Door Assembly Impact Test," 3 feet by 7 feet, with 4 inch by 25 inch vision panel, and with hardware preparations, shall be tested in accordance with ASTM F1450, Section 7.7 "Door Edge Crush Test."

- G. Test Reports: The manufacturer shall provide test reports and documentation by an independent testing laboratory in accordance with the reporting requirements of ASTM F1450 and ASTM F1592 certifying compliance with ANSI/NAAMM/HMMA 863, Article 1.5.

1.6 MANUFACTURER'S QUALIFICATIONS

- A. Manufacturer shall provide evidence of having personnel and plant equipment capable of fabricating hollow metal door and frame assemblies of the type specified herein. Manufacturer shall provide current documentation of the number of employees, a listing of their production equipment, and a description of their manufacturing facility.
- B. Manufacturers shall be ISO 9001:2000 certified and shall be required to present their Certificate of Registration upon request. The manufacturer's registrar shall be nationally recognized and shall provide the manufacturer with periodic factory follow up audits reaffirming the manufacturer's continuing compliance with their written quality program.
- C. Manufacturer's production welders shall be qualified under AWS D1.3 and upon request shall provide copies of Welders Certifications in accordance with AWS D1.3.
- D. Manufacturers shall have a minimum of 10 years' experience in successfully producing detention hollow metal of the types and sizes required in the contract documents. Upon request the manufacturer shall provide a list of successfully completed projects and the dates they were completed.
- E. Quality Criteria
 - 1. All door and frame construction shall be in accordance with construction of assemblies.
 - 2. Fabrication methods and product quality shall meet standards set by the Hollow Metal Manufacturers Association, HMMA, a Division of the National Association of Architectural Metal Manufacturers, NAAMM, as set forth in these Specifications.

1.7 INSTALLER QUALIFICATIONS

- A. Security door installation company shall have previously installed security doors in no fewer than five detention projects within the past five years in which there were no fewer than 50 detention doors and of those 50 doors there was a combination of electronically monitored and controlled doors and manually operating doors.
- B. Security door installation company is to employ a minimum of one (1) installer who has received training by the door manufacturer whose doors are to be installed. This certified installer is to be on site installing doors.

1.8 WARRANTY

- A. All hollow metal work shall be warranted from defects in workmanship and quality for a period of one year from date of substantial completion.

PART 2 - PRODUCTS

2.1 DETENTION SECURITY HOLLOW METAL DOORS

A. Materials:

1. Doors shall be manufactured of commercial quality, level, cold-rolled steel conforming to ASTM A1008/A1008M CS type B or hot-rolled, pickled and oiled steel conforming to ASTM A1011/A1011M CS type B. the steel shall be free of scale, pitting, coil breaks, buckles, waves or other surface blemishes or defects.
2. Exterior Doors: Face sheets shall be 0.093 inch (12 gauge) minimum thickness, Grade 2, and shall have a zinc coating applied by the hot-dip process conforming to ASTM A653/A653M Commercial Steel (CS type B), coating designation A60 (ZF180).
3. Interior Doors: Face sheets shall be 0.093 (12) gauge minimum thickness. Interior doors include personnel doors as well as chase access doors. See door schedule for door sizes.

B. Construction:

1. All doors shall be the types and sizes shown on the approved submittal drawings, shall be constructed in accordance with the Specifications and shall meet the performance requirements of this Specification. Alternate materials and methods of construction, which meet the aforementioned performance criteria, shall be permitted.
2. Door face sheets shall be joined at their vertical edges by a continuous tungsten inert gas (TIG) weld extending the full height of the door. This edge seam weld shall be sanded smooth and be neat in appearance. The door vertical edges shall not be covered with auto body putty or metallic fillers.
3. Door thickness shall be 2 inch nominal unless noted otherwise. Doors shall be neat in appearance and free from warpage or buckle. Edge bends shall be true and straight and of minimum radius for the thickness of material used.
4. Doors shall be stiffened by one of the following systems:
 - a. Continuous steel truss design core material, 0.015 inch minimum, having truncated triangular roll formed sections extending continuously from one door face to the other, spot welded to each face sheet 2-3/4 inches o.c. horizontally and 3 inches o.c. vertically. Core material shall extend full height and width of door.
 - b. Rolled or formed 1/8 inch steel channels extending from top to bottom of door and continuous from one face to the other, spaced not more than 4 inches o.c. and spot welded to door faces not more than 3 inches o.c. vertically.
 - c. Continuous vertical hat sections, one such hat section welded to each face of the door, 0.053 inch, with vertical webs no more than 4 inches apart. Hat sections shall be welded to each other at least 6 inches o.c. both sides in order to prevent separation.
5. Spaces between stiffeners shall be filled with fiberglass or mineral rockwool batt- type material.
6. The vertical edges shall be reinforced by a continuous steel channel extending the full height of the door and welded to both face sheets. The channels' thickness shall be not less than the thickness of the door face sheet. The top and bottom edges shall be closed with a continuous channel, the same thickness as the vertical edge channels and shall be spot-welded to the face sheet a maximum of 3 inches o.c. The closing end channel shall be continuously welded to the vertical reinforcing channel at all four corners producing a fully welded perimeter reinforcing channel.

7. The top end channel shall be fitted with an additional flush closing channel of the same material thickness. The flush closing channel shall be welded in place at the corners and at the center. Tops of exterior doors shall be made weather tight.
8. Edge profiles shall be provided on both vertical edges of doors and panels as follows:
 - a. Single acting (swinging) doors – beveled 1/8 inch in 2 inch profile.
9. Hardware Reinforcements:
 - a. Doors shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted hardware – or non-templated mortised hardware – is to be applied, doors shall be reinforced, and drilling and tapping shall be done by others in the field.
 - b. Minimum thicknesses for hardware reinforcements shall be as follows:
 - 1) Full Mortise Hinges and Pivots: 0.167 inch.
 - 2) Strikes: 0.167 inch.
 - 3) Lock Fronts, Concealed Holders, or Surface Mounted Closer: 0.093 inch.
 - 4) All Other Surface Applied Hardware: 0.093 inch.
 - c. Where electrically operated hardware is required and where shown on approved submittal drawings, hardware enclosures and junction boxes shall be provided and shall be interconnected using UL approved 0.5 inch minimum diameter conduit and connectors. Also, where shown on submittal drawings, junction boxes with access plates shall be provided to facilitate the proper installation of wiring. Access plates shall be the same thickness as the face sheet and fastened with a minimum of four (4) #8-32 tamper-resistant machine screws, not to exceed 6 inches o.c.
10. Glass Moldings and Stops:
 - a. Where specified, doors shall be provided with steel moldings to secure glazing by others in accordance with glass sizes and thickness shown on approved submittal drawings.
 - b. Fixed glass molding shall be not less than 0.093 inch and shall be spot- welded to both face sheets 3.0 inches o.c. maximum.
 - c. In glass openings where security glazing is specified and where shown on the approved submittal drawings, pressed steel angle glazing stops, no less than 0.093 inch thickness, shall be provided. Angle stops shall be mitered or notched and tight fitting at the corner joints and secured in place using 1/4 – 20 or 1/4 – 28 button head tamper-resistant machine screws with spacing necessary to satisfy the performance criteria.
 - d. Metal surfaces to which glazing stops are secured, the inside of the glazing stops shall be treated for maximum paint adhesion and painted with a rust inhibitive primer prior to installation in the door or shall be fabricated from A60 (ZF180) zinc coated steel.

2.2 HOLLOW METAL FRAMES

A. Materials:

1. Frames shall be constructed of commercial quality, cold rolled steel conforming to ASTM A366 or hot rolled, pickled steel conforming to ASTM A569. The steel shall be free of scale, pitting, coil breaks or other surface defects. Frames shall support detention doors.

2. Exterior Openings: Steel shall be 0.093 inch minimum thickness and shall have a zinc coating applied by the hot-dip process conforming to ASTM A653/A653M Commercial Steel (CS), coating designation A60 (Z180).
3. Interior Frames: Frames shall be constructed of commercial quality, cold rolled steel conforming to ASTM A366, or hot rolled. Steel shall be free of scale, pitting, coil breaks or other surface defects. Frames shall support detention doors and detention chase access doors.
4. Interior Openings: Steel shall be 0.093 inch minimum thickness.

B. Construction:

1. All frames shall have integral stops and be welded units of the sizes and types shown on approved submittal drawings.
2. All finished work shall be neat in appearance, square, and free of defects, warps and buckles. Pressed steel members shall be straight and of uniform profile throughout their lengths.
3. Jamb, head and sill profiles shall be in accordance with the frame schedule as shown on the approved submittal drawings.
4. Corner joints shall have all contact edges closed tight with faces mitered and stops either butted or mitered. Corner joints shall be continuously welded and the use of gussets or splice plates shall be unacceptable.
5. Minimum height of stops in door openings shall be 0.625 inch. Height of stops on security glass or panel openings shall be as shown on approved submittal drawings.
6. Hardware Reinforcements and Preparation:
 - a. Frames shall be mortised, reinforced, drilled and tapped for all templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted hardware such as anchor hinges, thrust pivots, pivot reinforced hinges, or non-templated mortised hardware is to be applied, frames shall be reinforced, and all drilling and tapping shall be done by others in the field.
 - b. Minimum thickness of hardware reinforcing plates shall be as follows:
 - 1) Hinges and Pivots: 0.167 inch by 1.5 inch by 10 inch length.
 - 2) Strikes: 0.167 inch
 - 3) Closers: 0.167 inch
 - 4) Flush Bolts: 0.167 inch
 - 5) All Other Surface Applied Hardware: 0.093 inch in cases where electrically operated hardware is required, and where shown on approved submittal drawings, hardware enclosures and junction boxes shall be provided, and shall be connected using UL approved conduit and connectors. Also, where shown on submittal drawings, junction boxes with access plates shall be provided to facilitate the proper installation of wiring. Access plates shall be the same thickness as the frame and fastened with a minimum of four (4) #8-32 tamper-resistant machine screws, not to exceed 6 inches o.c.
7. Anchors:
 - a. Floor Anchors:
 - 1) Floor anchors shall be fastened inside jambs with at least four (4) spot welds, or MIG welded on both sides, per anchor.
 - 2) Thickness of floor anchors shall be the same as frame.

- b. Jamb Anchors:
 - 1) Anchor Spacing – The number of anchors provide on each jamb shall be as follows:
 - a) Door Frames: 2 anchors plus 1 for each 16 inches or fraction thereof over 54 inches, spaced at 16 inches maximum between anchors (fire rating can require additional anchors).
- 8. All frames shall be provided with two temporary steel spreaders welded to the bottom of the jambs to serve as bracing during shipping and handling. The installation contractor shall be responsible for removing, finishing, and touch-up of marks caused by construction activity.
- 9. Removable Glazing Stops:
 - a. In openings where security glazing is specified and where shown on the approved submittal drawings, pressed steel angle glazing stops, not less than 0.093 inch, shall be provided. Angle stops shall be mitered or butted and tight fitting at the corner joints and secured in place using machine screws of the size and spacing necessary to satisfy the performance criteria. Space fasteners 2 inch maximum from each end and 8 inch o.c. maximum. View window stop heights be specified to provide 1 inch glass engagement.
 - b. The frame underneath the glazing stops and the inside of the glazing stops shall be treated for maximum paint adhesion and painted with a rust inhibitive primer prior to installation in the frame.

2.3 MANUFACTURING TOLERANCES

- A. Manufacturing tolerance shall be maintained within the following limits:
 - 1. Frames for single doors or pairs of doors:
 - a. Width measured between rabbets at the head: Nominal opening width plus 1/16 inch, minus 1/32 inch.
 - b. Height (total length of jamb rabbet): Nominal opening height plus or minus 3/64 inch in 20 inches.
 - 2. Cross sectional profile dimensions:
 - a. Face plus or minus 1/32 inch.
 - b. Stop plus or minus 1/32 inch.
 - c. Rabbet plus or minus 1/32 inch.
 - d. Depth plus or minus 1/32 inch.
 - e. Throat plus or minus 1/16 inch.
 - 3. Flatness of large frames 1/8 inch in 10 feet of length or width.
 - 4. Doors – doors are undersized to fit the frame. Edge clearances are based upon individual door manufacturer's designs. Tolerance on actual door sizes are as follows:
 - a. Width plus or minus 3/64 inch.
 - b. Height plus or minus 3/64 inch.

- c. Thickness plus or minus 1/16 inch.
 - d. Bow/flatness plus or minus 1/8 inch in 7 feet.
5. Hardware:
- a. Cutout and template dimensions plus or minus 0.015 inch, minus 0 inch.
 - b. Location plus or minus 1/32 inch.
 - c. Between hinge centerlines plus or minus 1/64 inch.

2.4 FINISH

- A. After fabrication, all tool marks and surface imperfections shall be filled and sanded as required to make face sheets, vertical edges and weld joints free from irregularities. After appropriate metal preparation, all exposed surfaces of doors and frames shall receive a rust inhibitive primer which meets or exceeds ANSI A 250.10, "Test Procedures and Acceptance Criteria for Prime Painting Steel Surfaces for Steel Doors and Frames.

PART 3 - EXECUTION

3.1 SITE STORAGE AND PROTECTION OF MATERIALS

- A. The contractor responsible for installation shall remove wraps or covers from doors and frames upon delivery at the building site. The contractor responsible for installation shall ensure that any scratches or disfigurement caused in shipping or handling are promptly sanded smooth, cleaned and touched up with a compatible rust inhibitive Direct to Metal (DTM) primer.
- B. The contractor responsible for installation shall ensure that materials are properly stored on planks or dunnage in a dry location. Doors and frames shall be stored in a vertical position and spaced by blocking. Materials shall be covered to protect them from damage but in such a manner as to permit air circulation.

3.2 INSTALLATION OF DOORS AND FRAMES

- A. Prior to installation, all frames shall be checked for correct size and swing, and with temporary spreaders removed, be corrected for squareness, alignment, twist and plumb. Permissible installation tolerances shall not exceed 1/16 inch:
 - 1. Squareness: Measured at rabbet on a line from jamb, perpendicular to frame head.
 - 2. Alignment: Measured at jambs on a horizontal line parallel to the plane of the face.
 - 3. Twist: Measured at opposite face corners of jambs on parallel lines, perpendicular to the plane of the door rabbet.
 - 4. Plumbness: Measured at jambs on a perpendicular line from the head to the floor.
 - 5. During the setting of the frames, check and maintain these tolerances for squareness, alignment, twist and plumbness.
- B. Frame jambs are not required to be fully grouted.
- C. Hardware shall be applied in accordance with hardware manufacturer's templates and instructions.
- D. Exposed field welds shall be finished smooth and touched up with a rust inhibitive primer.

- E. Primed or painted surfaces which have been scratched or otherwise marred during installation, cleaning, and/or field welding, including marks caused by spreader removal, shall promptly be finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive Direct to Metal primer.
- F. Install door silencers.
- G. Install glazing materials in accordance with 08 88 53 Security Glazing.

3.3 CLEARANCES

- A. Edge clearances for swinging doors shall provide for the functional operation of the assembly and shall not exceed the following:
 - 1. Between doors and frames at head and jambs: 3/16 inch maximum.
 - 2. At doorsills where a threshold is used: 3/8 inch maximum.
 - 3. At doorsills where no threshold is used: 3/4 inch maximum.

END OF SECTION

SECTION 08 71 63 - DETENTION DOOR HARDWARE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Description of Work: The extent of the work is shown on the drawings and specified in this document and includes providing new detention door hardware in new doors and frames. Hardware includes mechanical, electronic and electrical activated devices. Installation requires integration of security controls with detention hardware.

1.02 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 each type of detention door hardware.
- B. Shop Drawings: For each type of detention door hardware. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Wiring Diagrams: For power, signal, and control wiring; differentiate between manufacturer-installed and field-installed wiring for electrified detention door hardware. Include the following:
 - a. System schematic.
 - b. Point-to-point wiring diagram, including location of connections.
 - c. Riser diagram.
 - d. Elevation of each detention door type.
 - 2. Detail interface between electrified detention door hardware and perimeter security, detention monitoring and control, fire-alarm and building control system.
- C. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with detention doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Hardware Schedule Content: Based on hardware indicated, organize schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
 - a. Type, style, function, size, and finish of each hardware item.
 - b. Name and manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of each hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.
 - 1) Door numbers and frame types in schedule to match door numbers and frame types shown on Drawings.
 - 2) Explanation of all abbreviations, symbols, and codes contained in schedule.

- 3) Mounting locations for hardware.
 - 4) Door and frame sizes and materials.
2. Submittal Sequence: Submit schedule at earliest possible date, particularly where acceptance of Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include with schedule the product data, shop drawings of other work affected by door hardware, and other information essential to the coordinated review of schedule.
 3. Keying Schedule: Develop key schedule with Owner at the project site. Coordinate detention keying with existing doors.
 - a. Indicate each lock and type of key using the following prefixes: "P" for paracentric, "M" for mogul, "HS" for high security, and "C" for commercial.
 - b. Keying Conference: Conduct conference at Project site. Incorporate keying conference decisions into the final Keying Schedule after reviewing detention door hardware keying system including, but not limited to, the following:
 - 1) Function of building, flow of traffic, purpose of each area and degree of security required.
 - 2) Preliminary key system schematic diagram.
 - 3) Requirements for key-control system including key exclusivity and duplication control.
 - 4) Address for delivery of keys.

1.03 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer, supplier and Architectural Hardware Consultant.
 1. Installer Experience: List not less than five hardware installation projects by workers who will be on site at all times work is underway. List projects, locations and owner reference phone number.
- B. Product Certificates: For each type of electrified detention door hardware, from manufacturer.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency or performed by a qualified testing agency, for each type of detention lock and latch, and security door closer.
- D. Affidavit of Coordination: Letter signed by Hardware Supplier stating they have reviewed the drawings and specifications and have coordinated the hardware for completeness, substrates, conditions and project. Submittals submitted without affidavit will be returned without review.
- E. Operating/Maintenance Manuals: Furnish O&M Manuals for all security hardware and all security locking devices. These manuals shall include instructions for the care of the materials, parts list to aid the Owner in ordering replacement parts, as well as instructions for contacting the appropriate personnel not only during the warranty period, but beyond. The Contractor must have full time employees trained in the maintenance and repair of this equipment. Manuals shall also include "as built" shop drawings of all components.
- F. Operation and Maintenance Data: For electrified detention door hardware to include in emergency, operation, and maintenance manuals.
 1. Normal remote security operation.

2. Normal local security operation.
 3. Emergency security operation.
- G. Warranties: Sample of special warranties.
- H. Coordination Submittals:
1. Examination reports documenting inspections of substrates, areas, and conditions.
 2. Anchor inspection reports documenting inspections of existing and new anchors.
 3. Field quality-control reports documenting inspections of installed products.

1.04 QUALITY OF ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer and an authorized representative of detention door hardware manufacturer for installation and maintenance of units required for this Project. As a minimum, one (1) installer must be on the site at any time who has successfully completed not less than three years or five projects that are similar to this project.
- B. Supplier Qualifications: Detention door hardware supplier who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Architect, and Owner about detention door hardware and keying.
1. Detention Door Hardware Supplier Qualifications: An experienced detention door hardware supplier who has completed projects with electrified detention door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance, and who is acceptable to manufacturer of primary materials.
 - a. Engineering Responsibility: Prepare data for electrified detention door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- C. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for detention door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
1. Detention Door Hardware Consultant Qualifications: Experienced in providing consulting services for electrified detention door hardware installations.
- D. Source Limitations for Detention Door Hardware: Obtain each type of detention door hardware from single source from single manufacturer.

- E. Regulatory Requirements: Comply with provisions of the following:
1. Where indicated to comply with accessibility requirements, comply with ICC/ANSI A117.1 as follows:
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Security Door Closers: Comply with the following maximum opening-force requirements indicated:
 - 1) Hinged Doors: 5 lbf applied perpendicular to door.
 2. NFPA 101: Comply with the following for means-of-egress doors:
 - a. Latches and Locks: Not more than 15 lbf to release the latch.
 - b. Security Door Closers: Not more than 30 lbf to set door in motion and not more than 15 lbf to open door to minimum required width.
 3. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- F. Keying Conference: Conduct conference at Project site or by video conference. Incorporate keying conference decisions into the final Keying Schedule after reviewing detention door hardware keying system including, but not limited to, the following:
1. Function of building, flow of traffic, purpose of each area and degree of security required.
 2. Preliminary key system schematic diagram.
 3. Requirements for key-control system including key exclusivity and duplication control.
 4. Address for delivery of keys.
- G. Preinstallation Conference: Conduct conference at Project site.
1. Discuss electrical and control system roughing-in and work performed by other trades.
 2. Review sequence of operation for each type of electrified detention door hardware.
 3. Review and finalize a construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Certifying procedures.

1.05 PERFORMANCE REQUIREMENTS

- A. Swinging Detention Door Assemblies: Provide detention door hardware as part of a detention door assembly that complies with security grade indicated, when tested according to ASTM F 1450, based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.
1. Tool-Attack Resistance: Comply with small-tool-attack-resistance rating when tested according to UL 1034 and UL 437.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Marking: Each piece of security hardware furnished under this Section shall be packaged and marked according to the hardware set and door number listed in the approved hardware schedule.
- B. Deliver all components cartoned or crated to provide protection during transit and job storage.
- C. Inspect all components upon delivery for damage. Damages may be repaired, provided the repaired items are equal in all respects to new work and acceptable to the Architect-Engineer; otherwise, remove and replace damaged items as directed.
- D. Store all components in a locked storage area for all components deemed necessary by the Detention Equipment Contractor. Do not store any materials directly on the ground or concrete. Provide adequate ventilation and protection to ensure materials are kept dry, clean and secure. Store all materials in the manner and order as prescribed by the Detention Equipment Contractor and/or manufacturer.

1.07 COORDINATION

- A. Examine the drawings and specifications of other trades whose work may influence the installation and/or operation of the detention hardware. Prior to the start of work, review the project drawings and specifications and coordinate work with all other trades and Divisions of the Specifications affecting Work of this Section.
 - 1. Responsibilities for electrical and mechanical hardware installation shall include the following:
 - a. Furnish and install door locks, switches, limit switches, lock feature switches and push buttons, as required for the system to perform the functions as defined.
 - b. Coordinate the integration and interfacing of the products and equipment specified in this section and in accordance with shop drawings and approved submittals.
 - c. Review all door control submittals and confirm that all scheduled controls and monitoring will function in accordance with the specified function. A written confirmation of this review shall be submitted.
 - d. Coordinate the power requirements with all equipment furnished in this section.

1.08 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of detention door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of operators and detention door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering or detention use.
- B. Warranty Period: Three years from date of Substantial Completion.

1.09 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of detention door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide 12 months maintenance assistance by skilled employees of detention door hardware Installer. Include monthly discussions with DOC maintenance staff on preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper detention door hardware operation. Provide parts and supplies the same as those used in the manufacture and installation of original equipment. At the end of the first year following substantial completion, the hardware installer is to visit the project site and adjust, lubricate and inspect each installed hardware component.

PART 2 - PRODUCT

2.01 GENERAL

- A. Security design criteria is based upon the requirements and features of the products listed herein which form the "Basis of Design". The use of one manufacturer's numeric designation does not imply other manufacturer's products will not be accepted. Better or equal substitutions are welcome.

2.02 DETENTION HINGES, GENERAL

- A. Full Mortise Detention Bearing Hinges shall be 4-1/2" x 4-1/2" x 0.188" thick investment cast 304 stainless steel with hospital tips and integral studs on both leaves. Pins shall be hardened stainless or alloy steel, concealed and non-removable. Each hinge shall be supplied with flat head machine screws. All hinges shall be US32D finished.
- B. Furnish three hinges for door through 84-inches in height and one additional hinge for each additional 30-inches of height or fraction thereof. Furnish three hinges for doors through 36-inches in width and one additional hinge for each additional 12-inches of width or fraction thereof.
- C. Except where otherwise indicated, hinges shall be mortised, 4-1/2" x 4-1/2", cast steel or stainless steel, ball bearing, with pins made non-removable by a concealed hardened roll pin. All hinges shall be furnished with specified security fasteners.
- D. Hinges shall be certified, by an independent testing lab, to meet or exceed the cycle requirements of ASTM F1758, Grade 1A.
- E. Hinges furnished shall comply with the requirements of NFPA 80.
- F. Detention Doors with Security Closers: Unless otherwise indicated, provide antifriction-bearing detention hinges.
- G. Detention Hinge Base Metal: Unless otherwise indicated, provide the following:
 - 1. Exterior Detention Hinges: Stainless steel, with stainless-steel pin.

- H. Fastening: Comply with the following:
1. Welding: Where indicated, weld hinges to detention doors and frames with continuous fillet weld around three sides of hinge perimeter.
 2. Security Fasteners: Provide security head machine screws; finish screw heads to match surface of detention hinges. Install into drilled and tapped holes.

2.03 DETENTION HINGES

- A. Hinges: Extra heavy weight; two heavy-duty thrust bearings with hardened-steel ball bearings; fabricated from stainless steel plate; 1/2-inch-diameter, case-hardened, fully welded, steel hinge pin with security stud.
1. Basis of Design Product: Subject to compliance with requirements, provide Southern Folger Model No. 204 FMSS Full Mortis Hinge or equal.

2.04 STRIKES:

- A. All locks and latches shall be furnished with manufacturer's standard strikes complete with dust boxes.

2.05 FASTENERS

- A. Manufacturer hardware to conform to published template, generally prepared for machine screw installation. Do not provide hardware, which has been prepared for self-tapping of sheet metal screws.
- B. Furnish screws for installation with each hardware item. All exposed screw heads, whether door is open or closed, shall be Torx (with security stud) flat-head or oval head screws except as otherwise indicated. Screws shall be finished to match the applied hardware item. See Section 11 98 16 Tamper Resistant Fasteners.

2.06 DOOR POSITION SWITCH

- A. Basis of Design: New frames only, Southern Folger 200 MRS, or as required by hardware schedule.
- B. Recessed Magnetic Door Position Switch-Triple Biased shall be a five-reed switch magnet mortised type assembly used for remotely monitoring the door status/position. The device shall be triple bias for tamper resistance.
- C. The device shall be moisture resistant and fit within a 2" hollow metal jamb or head. The device shall be field adjustable on 2 axis and supplied with a 5' vinyl jacketed lead wire and a 3-pin Molex connector. The device shall be all steel construction. The switch and magnet shall be encased in epoxy resin.

2.07 CONCEALED DOOR CLOSERS

- A. Basis of Design: (LCN #2210 series) shall be concealed in surface of door and frame with security screws and shall have fully adjustable spring tension. Maximum opening allowed shall be 180 degrees. Provide standard finish of powder coat aluminum.

2.08 WALL MOUNTED DOOR STOPS (WALL MOUNT ONLY)

- A. Basis of Design: (McMaster-Carr 9540K28) shall be a tamper resistant device that is fastened onto the wall with a 1/4-inch security screw. Bumper shall be 1-1/2" diameter x 3/4" long and made from SBR rubber, durometer 70A.

2.09 SMOKE GASKETS / WEATHER-STRIPPING

- A. Provide gasketing equal to Basis of Design: Pemko S88D at all exterior openings. After installation, razor cut gasketing into pieces not over 12" in length. All exterior doors shall be provided with Reese DS78A head and jamb gasketing and Pemko 368CN sill sweeps (or approved equal).

2.10 DETENTION LOCKS AND LATCHES, GENERAL

- A. Swinging Detention Door Lock and Latch Performance: Provide detention door locks and latches that comply with security grade indicated, when tested according to ASTM F 1577, based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Detention Lock Construction: Fabricate detention lock case and cover plate from steel plate. Fabricate bolts from solid sections; laminated construction unacceptable.
- C. Detention Lock Throw: Comply with testing requirements for length of bolts to comply with labeled fire door requirements, and as follows:
 - 1. Latchbolts: Minimum 3/4-inch latchbolt throw.
 - 2. Deadbolts: Minimum 1-inch bolt throw.
- D. Detention Lock Trim:
 - 1. Levers: Solid stainless steel.
- E. Acceptable Manufacturers
 - 1. Basis of Design: Southern Folger Detention Equipment Company. 10300M series for electric locks, 10300M series for jamb mounted jamb bolt locks and 10501 series for passage latch sets.
 - 2. Basis of Design: Southern Folger Detention Equipment Company.

2.11 KEYING AND KEYS

- A. Keying and Keys

1. The Contractor is responsible for scheduling and meeting with the Owner, Architect/Consultant and other involved parties to determine keying requirements. A complete keying schedule shall be submitted for review and approval. During the submittal review the key schedule may be modified as desired by the Owner.
2. Commercial Door type cylinders shall be keyed in sets matching existing.
 - a. Provide six (6) keys per opening.

B. Key Control System:

1. Keying: Provide key system as directed by the Owner.
2. The Contractor shall be responsible for all keys and in the unlikely event any key is lost, the Contractor shall bear all costs incurred in having locks re-keyed. The Contractor shall turn all keys over to the Owner as directed by the Owner for inclusion into the key cabinet.
3. When requested by the Owner, in writing, the Contractor shall surrender any or all keys assigned to him.
4. All keys shall be stamped with a maximum of six (6) characters, as directed by Owner.

2.12 SWITCHES

- A. General: Provide switches configured with type of contacts required for functions indicated, including multiple circuiting where required by functional performance of Division 28 Section "PLC Electronic Detention Monitoring and Control Systems."
- B. Concealed, Magnetic Door Position Switches for New Doors: Consisting of actuating magnet mortised into detention door and switch mortised into frame; with stainless-steel faceplates; 24-V dc, factory wired with plug connector. Wire in series with lock monitors. Attach with security fasteners.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Southern Folger 200 MRS.

2.13 DETENTION OPERATING TRIM

- A. Standard: BHMA A156.6, Grade 1.

2.14 SECURITY DOOR CLOSERS

- A. Standard: BHMA A156.4, Grade 1.
 1. Certified Products: Provide security door closers listed in BHMA's "Directory of Certified Products."
- B. Concealed Security Door Closers:
 1. Basis of Design Product: Subject to compliance with requirements, provide LCN Closers, an Ingersoll-Rand company (LCN); Series 2210.
 2. Construction: Forged-steel arm; security roller; with track concealed in head of detention door, designed to eject foreign objects during opening and closing; fabricated with joints designed to prevent disassembly with ordinary hand tools. Closer arm and track fully concealed when door is closed.

3. Cover Plates: Heavy-duty metal, attached with security fasteners.
- C. Unit Size: Unless otherwise indicated, comply with manufacturer's written recommendations for size of security door closers depending on size of door, exposure to weather, and anticipated frequency of use.

2.15 DETENTION DOOR STOPS

- A. Detention Wall Stops: Basis of Design: McMaster-Carr 9540K28.

2.16 OTHER HARDWARE ITEMS

- A. Other Hardware Items: The following are Basis of Design products: Subject to compliance with requirements, provide the following as scheduled:
1. Weather Stripping: Basis of Design: Reese DS78A
 2. Threshold: Basis of Design: Pemko 1254AFG
 3. Sweep: Basis of Design: Pemko 368CN

2.17 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise approved by Architect.
- B. Base Metals: Produce detention door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified detention door hardware units and BHMA A156.18 finishes. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- C. Fasteners: Provide flat-head security fasteners with finished heads to match surface of detention door hardware unless otherwise indicated.
1. Security Fasteners: Fabricate detention door hardware using security fasteners with head style appropriate for fabrication requirements, strength, and finish of adjacent materials. Provide stainless-steel security fasteners in stainless-steel materials.
 2. Concealed Fasteners: For detention door hardware units that are exposed when detention door is closed except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching detention door hardware. Where through bolts are used on hollow-metal detention door and frame construction, provide sleeves for each through bolt.
 3. Steel Machine Screws: For the following fire-rated applications:
 - a. Mortise detention hinges to detention doors.
 - b. Strike plates to detention frames.
 - c. Security door closers to detention doors and frames.
 4. Steel Through Bolts: For the following fire-rated applications unless door blocking is provided:

- a. Surface detention hinges to detention doors.
 - b. Security door closers to detention doors and frames.
5. Spacers for Security Bolts: For through bolting of hollow-metal detention doors.

2.18 FINISHES

- A. Standard: Comply with BHMA A156.18.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. BHMA Designations: Comply with base material and finish requirements indicated by the following:
 1. BHMA 630: Stainless steel, satin, over stainless-steel base metal.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Examine and inspect all surfaces, anchors, and grounds that are to receive materials, fixtures, assemblies, and equipment specified herein. Check location, "rough in", and field dimensions prior to beginning work. Report all unsatisfactory conditions in writing to the Architect-Engineer and general contractor.
 1. Do not begin installation until all unsatisfactory conditions have been corrected.
- B. Verify all dimensions and be responsible for their correctness. No extra compensation will be allowed for differences between actual measurements and the dimensions indicated on the drawings.

3.02 INSTALLATION

- A. Install security materials and accessories in accordance with the final shop drawings, manufacturer's data, and as herein specified.
 1. Provide manufacturer's supervision of installation, including testing and interfacing of systems.
- B. Install all components and complete system as indicated and in accordance with manufacturer's recommendations and instructions.
- C. Nuts of all bolted work shall be drawn tight and threads battered or welded. Bolting may be used in the installation of detention equipment provided that the nuts are not accessible to inmates or exposed to view. Bolts shall be special oval head or flat head Torx security type. Other types of security bolts are unacceptable unless specifically approved by the Architect-Engineer. Provide two sets of wrenches for each size bolt used.

3.03 ADJUSTING

- A. Final Adjustments: Prior to final inspection check and re-adjust all components to operate within their designed capacity. All components shall be adjusted and tested to verify correct operation prior to final inspection.
- B. All devices shall be tested for specified and manufacturer described operation.
- C. All tests required by local agencies shall be performed.
- D. All tests required by Owner and Owner's representative shall be performed.
- E. Systems not meeting the minimum level of acceptability as defined in the test procedures shall be repaired and retested.
- F. Provide documentation of test procedures and results.
- G. Equipment manufacturer's representative shall certify that the systems are installed and operate as specified.
- H. All costs to test and retest systems shall be the responsibility of the Detention Equipment Contractor.

3.04 SECURITY HARDWARE SCHEDULE

- A. GENERAL NOTES:
 - 1. Provide threshold and weatherstrip at exterior door openings.
 - 2. Provide a doorstop at all door openings unless otherwise noted.

3.05 HARDWARE GROUPS

HARDWARE SET NO. SH1

DOORS: 200A AND 200B

UNIT	PART	CATALOG NO.	FINISH	MANUFACTURER
3 EA	HINGE	204FMSS	US32D	SOUTHERN FOLGER
1 EA	LOCK	10300M-2KCE NL	US32D	SOUTHERN FOLGER
1 EA	LATCH	10501L/K500C	US32D	SOUTHERN FOLGER
2 EA	CYLINDER	--	US32D	MOGUL
1 EA	DOOR CLOSER	2210 SERIES	ALUMINUM	LCN
1 EA	WEATHER STRIPPING	DS78A		REESE
1 EA	THRESHOLD	254AFG	ALUMINUM	PEMKO
1 EA	SWEEP	368CN	BLACK	PEMKO
1 EA	DOORSTOP	9540K28	BLACK	MC MASTER-CARR

HARDWARE SET NO. SH2

DOORS: 201A

UNIT	PART	CATALOG NO.	FINISH	MANUFACTURER
3 EA	HINGE	204FMSS	US32D	SOUTHERN FOLGER
1 EA	LOCK	101514	US32D	SOUTHERN FOLGER
1 EA	CYLINDER	MOGUL	US26D	SOUTHERN FOLGER
1 EA	CLOSER	2210	AL	SOUTHERN FOLGER
1 EA	KICK PLATE	SS 16"		ARMOR

HARDWARE SET NO. SH3

DOORS: 201B, 201C

UNIT	PART	CATALOG NO.	FINISH	MANUFACTURER
3 EA	HINGE	204FMSS	US32D	SOUTHERN FOLGER
1 EA	LOCK	1010AM	US 26D/GALV	SOUTHERN FOLGER
1 EA	CYLINDER	MOGUL	US26D	SOUTHERN FOLGER

END OF SECTION

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass products.
 - 2. Glazing sealants.
 - 3. Glazing tapes.
 - 4. Miscellaneous glazing materials.

1.2 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters in accordance with ASTM C1036.
- C. Interspace: Space between lites of an insulating-glass unit.

1.3 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on glazing, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For glass.
- B. Product Test Reports: For fabricated glass and glazing sealants, for tests performed by a qualified testing agency.
 - 1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.
- C. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

- A. Fabricated-Glass Manufacturer Qualifications: A qualified manufacturer of fabricated glass units who is approved by primary glass manufacturer.
- B. Installer Qualifications: A qualified installer who employs glazing installers.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials in accordance with 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 instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.8 FIELD 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 are below 40 deg F.

1.9 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: 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 for 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 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 MANUFACTURERS

- A. Source Limitations for Glass: Obtain glass from single source from single manufacturer.

- B. Source Limitations for Glazing Accessories: For each product and installation method, obtain from single source from single manufacturer.

2.2 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 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. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300:
 - 1. Design Wind Pressures: Determine design wind pressures applicable to Project in accordance with ASCE/SEI 7, based on heights above grade indicated on Drawings.
 - a. Wind Design Data: As indicated on Drawings.
 - b. Basic Wind Speed: 100 mph.
 - c. Importance Factor: 1.15.
 - d. Exposure Category: B.
 - 2. Thermal Loads: Design glazing to resist thermal stress breakage induced by differential temperature conditions and limited air circulation within individual glass lites and insulated glazing units.
- C. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

2.3 GLASS PRODUCTS, GENERAL

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the IGCC.
- D. Thickness: Where glass thickness is indicated, it is a minimum.
 - 1. Minimum Glass Thickness for Exterior Lites: 3/8 inch at exterior panel, 1/2 inch at interior panel.
- E. Strength: Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

- A. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear), Quality-Q3.
 - 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

2.5 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified in accordance with ASTM E2190.
 - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
 - 2. Perimeter Spacer: Nonmetallic laminate.
- B. Sputter-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide or -nitride coating deposited by vacuum deposition process after manufacture and heat treatment (if any), and complying with other requirements specified.

2.6 GLAZING SEALANTS

- A. General:
 - 1. Compatibility: Compatible with one another and with other materials they 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. Field-applied sealants shall have a VOC content of 250 g/L or less.
- B. Colors of Exposed Glazing Sealants: Black Security Sealant: Manufacturer's standard, nonsag, tamper-resistant sealant for joints with low movement complying with ASTM C 920, Grade NS, Class 12.5 or 25, Use NT, and with a Shore A hardness of at least 45 when tested according to ASTM C 661.
 - 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. BASF Construction Chemicals, LLC, Building Systems; Sonolastic Ultra.
 - b. Pecora Corporation; DynaFlex.
 - 2. Application: Exterior doors.

2.7 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 C1281 and AAMA 800 for products indicated below:
 - 1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

2.8 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, recommended in writing by 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:
 - 1. Elastomeric material with Shore A durometer hardness of 85, plus or minus 5.
- D. Spacers:
 - 1. Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks:
 - 1. Elastomeric material of hardness needed to limit security glazing lateral movement (side walking).

2.9 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.
 - 1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

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 surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that 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. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. 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.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass lites where length plus width is larger than 50 inches.
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.

2. Provide 1/8-inch-minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- G. 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 in accordance with requirements in referenced glazing publications.
- H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- I. 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, then to jambs. Cover horizontal framing joints by applying tapes to jambs, 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 CLEANING AND PROTECTION

- A. Immediately after installation, remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. 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.
 1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.
- C. Remove and replace glass that is damaged during construction period.

- D. Wash glass on both exposed surfaces 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.

3.6 INSULATING GLASS SCHEDULE

- A. Low-E-Coated, Clear Insulating Glass Type (Type IS):
1. Overall Unit Thickness: 1-1/4".
 2. Minimum Thickness of Each Glass Lite: 9 mm
 3. Outdoor Lite: Fully tempered float glass.
 4. Interspace Content: Argon.
 5. Indoor Lite: Fully tempered float glass.
 6. Low-E Coating: Sputtered on third surface.
 7. Safety glazing label required.

END OF SECTION

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

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 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.

1.3 DESIGN REQUIREMENTS

- A. Design in accordance with American Iron and Steel Institute Publication "Specification for the Design of Cold-Formed Steel Structural Members", except as otherwise shown or specified.

1.4 ACTION SUBMITTALS

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

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received prior to installing.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling as required in AISI's "Code of Standard Practice".

PART 2 - PRODUCTS

2.1 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40, hot-dip galvanized.

- B. Studs and Runners: ASTM C 645.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: 20 guage.
 - b. Depth: 3 5/8 -inch.
 - c. Spacing: 12 inches on center.
- C. Slip-Type Head Joints: Where indicated, provide the following:
 - 1. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch-deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
- D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: 0.063 inch.
- E. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch-wide flanges.
 - 1. Depth: 1-1/2 inches.
 - 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch-thick, galvanized steel.

2.2 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide the following:
 - 1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.

3.3 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: 12 inches o.c. unless otherwise indicated.
- B. Where studs are installed directly against exterior dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

END OF SECTION

SECTION 09 29 00 - GYPSUM BOARD

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 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
- B. Related Requirements:
 - 1. Section 09 22 16 "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board panels.

1.3 ACTION SUBMITTALS

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

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD 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 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 GYPSUM BOARD, GENERAL

- A. Size: Provide 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. 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. Georgia-Pacific Building Products.
 - 3. National Gypsum Company.
- B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch.
 - 2. Long Edges: Tapered.
- C. Glass-Mat Gypsum Board, Type X: ASTM C1396/C1396M gypsum board, tested according to ASTM C1629/C1629M.
 - 1. Core: 5/8 inch.
 - 2. Surface Abrasion: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
 - 3. Indentation: ASTM C1629/C1629M, meets or exceeds Level 1 requirements.
 - 4. Soft-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 2 requirements.
 - 5. Hard-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 1 requirements.
 - 6. Long Edges: Tapered.
 - 7. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.3 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 - 2. Shapes:
 - a. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - b. L-Bead: L-shaped; exposed long flange receives joint compound.

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.

- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - 2. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 3. Finish Coat: For third coat, use drying-type, all-purpose compound.

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.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
- 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, 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 Acoustical Insulation Installation:

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice and snow.
- C. Install batt insulation friction fit between framing members. Secure in place to prevent sag.
- D. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

- E. Extend insulation into profile of metal studs. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with panel placement.

3.3 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. 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. Fit gypsum panels around ducts, pipes, and conduits.
- 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 sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.4 APPLYING INTERIOR GYPSUM BOARD

- A. Single-Layer Application:
 - 1. 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.
 - 2. Application: Provide glas-mat gypsum board where exposed to gymnasium. Provide standard Type 'X' gypsum board where not exposed to gymnasium.
 - 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- B. STC-Rated Assemblies: Seal construction with acoustical insulation at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of sealant. Install sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies.

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. Interior Trim: Install in the following locations:
 - 1. LC-Bead: Use at exposed panel edges.
 - 2. L-Bead: Use where LC-Bead cannot be installed.

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 for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 4: At panel surfaces that will be exposed to view.
 - a. Primer and its application to surfaces are specified in Section 09 90 00 "Painting."
- E. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. 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

SECTION 09 90 00 - PAINTING

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 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, the Department will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish, and floor striping for basketball court.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, labels and exterior horizontal traffic surfaces.
 - 1. Prefinished items including, but not limited to, the following factory-finished components:
 - a. Finished mechanical and electrical equipment.
 - b. Light fixtures.
 - c. Exterior concrete surfaces.
 - 2. Concealed surfaces including, but not limited to, walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas.
 - b. Pipe spaces.
 - 3. Finished metal surfaces including, but not limited to, the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.

4. Operating parts include, but not limited to, moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
 3. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
 4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

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 four Samples on 8-by-10 inch cardstock for Department's review of color and texture only.
 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. VOC content.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.
- B. 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.
 - 1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before starting or continuing with coating operation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Paint 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. Glidden Professional Paints/PPG Amercoat Industrial, Devoe Light Industrial
 - 2. PPG Industries, Inc. (Pittsburgh Paints).
 - 3. Rhodda Paint Co.
 - 4. Sherwin-Williams Co. (Sherwin-Williams).

- 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 MATERIALS, GENERAL

- A. 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.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- 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. Primers, Sealers, and Undercoaters: 200 g/L.
- D. Colors: As selected by Architect from manufacturer's full range.
 - 1. Match interior finish of tensile structure.

2.3 INTERIOR PRIMERS

- A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
 - 1. Glidden Professional Paints; 1090-1200 Ultra Basecoat Interior Latex Wall Primer/Sealer: Applied at a dry film thickness of not less than 1.2 mils.
 - 2. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil.
 - 3. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils.

- B. Interior Wood Primer for Acrylic-Enamel and Semigloss Alkyd-Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.
 - 1. Glidden Professional Paints; 3210-1200 Ultra-Hide Aquacrylic GRIPPER Stain Killer Primer Sealer: Applied at a dry film thickness of not less than 1.8 mils
 - 2. Pittsburgh Paints; 17-921 Seal Grip 100 Percent Acrylic Universal Primer: Applied at a dry film thickness of not less than 1.6 mil.
 - 3. Sherwin-Williams; Multi-Purpose Latex Primer B51W00020: Applied at a dry film thickness of not less than 1.6 mils.

- C. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
 - 1. Glidden Professional Paints; 4160-6130 Devguard Multi-Purpose Tank and Structural Primer: Applied at a dry film thickness of not less than 2.0 mils.
 - 2. Pittsburgh Paints; 90-712 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 2.0 mils.
 - 3. Sherwin-Williams; Pro Industrial Pro-Cryl Universal Primer B66W00310: Applied at a dry film thickness of not less than 3.0 mils.

- D. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.
 - 1. Glidden Professional Paints; 4160-6130 Devguard Multi-Purpose Tank and Structural Primer: Applied at a dry film thickness of not less than 2.0 mils.
 - 2. Pittsburgh Paints; 90-712 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 2.0 mils.
 - 3. Sherwin-Williams; Pro Industrial Pro-Cryl Universal Primer B66W00310: Applied at a dry film thickness of not less than 3.0 mils.

2.4 EXTERIOR FINISH COATS

- A. Exterior Semigloss Alkyd Enamel: Factory-formulated semigloss alkyd enamel for exterior application.
 - 1. Glidden Professional Paints; 2516 Alkyd Semgloss Enamel; Applied at a dry film thickness of not less than 1.5 mils.
 - 2. Pittsburgh Paints; Applied at a dry film thickness of not less than 1.5 mils.
 - 3. Sherwin-Williams; SWP Exterior Oil Base Gloss A2 Series; Applied at a dry film thickness of not less than 4.0 mils.

2.5 INTERIOR FINISH COATS

- A. Interior Flat Latex-Emulsion Size: Factory-formulated flat latex-based interior paint.
 - 1. Glidden Professional Paints; 1200 Ultrahide 250 Interior Flat Latex Wall & Trim Finish: Applied at a dry film thickness of not less than 1.4 mils.
 - 2. Pittsburgh Paints; 6-70 Line SpeedHide Interior Wall Flat-Latex Paint: Applied at a dry film thickness of not less than 1.0 mil.
 - 3. Sherwin-Williams; ProMar 200 Interior Latex Flat Wall Paint B30W200 Series: Applied at a dry film thickness of not less than 1.4 mils.

- B. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application.
1. Glidden Professional Paints; 1406 Ultrahide 250 Acrylic Semi-Gloss Interior Wall & Trim Enamel: Applied at a dry film thickness of not less than 1.5 mils.
 2. Pittsburgh Paints; 6-500 Series SpeedHide Interior Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.0 mil.
 3. Sherwin-Williams; ProMar 200 Latex Semi-Gloss, B31 Series: B31W200 Series: Applied at a dry film thickness of not less than 1.3 mils.
- C. Interior Semigloss Alkyd Enamel: Factory-formulated semigloss alkyd enamel for interior application.
1. Glidden Professional Paints; 2516 Alkyd Semgloss Enamel; Applied at a dry film thickness of not less than 1.5 mils.
 2. Pittsburgh Paints; Applied at a dry film thickness of not less than 1.5 mils.
 3. Sherwin-Williams; SWP Exterior Oil Base Gloss A2 Series; Applied at a dry film thickness of not less than 4.0 mils.

2.6 INTERIOR HIGH-PERFORMANCE COATING SYSTEMS

- A. Concrete Striping for Basketball Court: Provide the following finish systems over interior concrete surfaces:
1. Moderate Environment (Semigloss Finish): One finish coat over an intermediate coat and a primer.
 - a. Primer: Epoxy primer applied at spreading rate recommended by manufacturer.
 - 1) Carboline: 888 2-Component Polyamide Epoxy.
 - 2) PPG: 97-14XX Series Pitt-Guard DTR Epoxy.
 - 3) S-W: Primer not required.
 - 4) Tnemec: Series 66 Hi-Build Epoxoline Polamidoamine Epoxy.
 - b. Intermediate Coat: Epoxy applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 2.0 to 5.0 mils.
 - 1) Carboline: 888 2-Component Polyamide Epoxy.
 - 2) PPG: 97-1XXX Series Aquapon High Build Semi-Gloss Polyamide Epoxy Coating.
 - 3) S-W: Epolon II Multi-Mil Epoxy Series B62V800.
 - 4) Tnemec: Intermediate coat not required.
 - c. Topcoat: Semigloss polyamide epoxy applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 2.0 to 5.0 mils, unless otherwise indicated.
 - 1) Carboline: 888 2-Component Polyamide Epoxy.
 - 2) PPG: 97-1XXX Series Aquapon High Build Semi-Gloss Polyamide Epoxy Coating.
 - 3) S-W: Epolon II Multi-Mil Epoxy Series B62V800.
 - 4) Tnemec: Series 66 Hi-Build Epoxoline Polamidoamine Epoxy.

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. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Wood: 15 percent.
 - 2. Gypsum Board: 12 percent.
 - 3. Concrete: 5 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. 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. General: 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.
- B. 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.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer, but not less than the following:
 - 1. SSPC-SP 3, "Power Tool Cleaning."
- 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.
- G. Wood Substrates:
 - 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions.
 - 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 with exterior paint.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. 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.
- D. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed to view in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Pipe hangers and supports.
 - d. Metal conduit.
 - e. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - 2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.
 - 3. Sand lightly between each succeeding enamel or varnish coat.

- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces, except in mechanical equipment rooms, and electrical rooms.
- F. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- G. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- H. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
 - 1. Provide satin finish for final coats.
- I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 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.

3.5 EXTERIOR PAINT SCHEDULE

- A. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated metal surfaces:
 - 1. Semi-Gloss Alkyd Enamel Finish: Two finish coat over a factory applied primer.
 - a. Finish Coats: Exterior semi-gloss alkyd enamel.

3.6 INTERIOR PAINT SCHEDULE

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior semigloss acrylic enamel.

- B. Wood: Provide the following paint finish systems over new interior wood surfaces:
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a wood undercoater.
 - a. Primer: Interior wood primer for acrylic-enamel and semigloss alkyd-enamel finishes.
 - b. Finish Coats: Interior semigloss acrylic enamel.

- C. Ferrous Metal: Provide the following finish systems over ferrous metal:
 - 1. Semigloss Alkyd Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior ferrous-metal primer.
 - b. Finish Coats: Interior semi-gloss alkyd enamel.

- D. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces:
 - 1. Semigloss Alkyd-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior zinc-coated metal primer.
 - b. Finish Coats: Interior semi-gloss alkyd enamel.

- E. All-Service Jacket over Insulation: Provide the following finish system on cotton or canvas insulation covering:
 - 1. Flat Acrylic Finish: Two finish coats. Add fungicidal agent to render fabric mildew proof.
 - a. Finish Coats: Interior flat latex-emulsion size.

END OF SECTION

SECTION 10 44 16 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.
- B. Related Requirements:
 - 1. Section 10 44 13 "Fire Protection Cabinets."

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher.

1.3 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

1.5 COORDINATION

- A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

1.6 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. Failures include, but are not limited to, the following:
 - a. Failure of hydrostatic test according to NFPA 10 when testing interval required by NFPA 10 is within the warranty period.
 - b. Faulty operation of valves or release levers.
 - 2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- 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 FM Global.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated.
 - 1. Source Limitations: Obtain fire extinguishers, fire-protection cabinets, and accessories, from single source from single manufacturer.
 - 2. Valves: Manufacturer's standard.
 - 3. 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.

2.3 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, with plated or black baked-enamel finish.
 - 1. Source Limitations: Obtain mounting brackets and fire extinguishers from single source from single manufacturer.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 - 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.
 - a. Orientation: Vertical.

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.
- B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.
 - 1. Mounting Height: Top of fire extinguisher to be at 42 inches above finished floor.

END OF SECTION

SECTION 11 66 23 - GYMNASIUM EQUIPMENT

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 SUMMARY

- A. Section Includes:
 - 1. Basketball equipment.
 - 2. Safety pads.
 - 3. Pull up bars.
 - 4. Box steps.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include assembly, disassembly, and storage instructions for removable equipment.
- B. Shop Drawings: For basketball equipment and box steps.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of field assembly for connections, installation, floor mountings.
- C. Samples for Verification: For the following products:
 - 1. Pad Fabric: Wall padding minimum 3 inches square, with specified treatments applied. Mark face of material.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Court layout plans, reflected ceiling plans, and other details, drawn to scale, and coordinated with ceiling-suspended gymnasium equipment, floor inserts, game lines, and markers applied to finished flooring, and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members to which overhead-supported gymnasium equipment will be attached.
- B. Product Certificates: For each type of gymnasium equipment.

- C. Field quality-control reports.
- D. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For gymnasium equipment to include in operation and maintenance manuals.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify position and elevation for gymnasium equipment.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of gymnasium equipment that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Basketball backboard failures.
 - b. Faulty operation of basketball backstops.
 - 2. Warranty Period: 25 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Basketball backstops and anchors shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

2.2 BASKETBALL EQUIPMENT

- 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. Performance Sports Systems.
 - 2. Porter Athletic Corporation.
 - 3. Spalding, a Russel Brands, LLC. company.
- B. Standard Rules: Provide equipment according to the requirements of NFHS's "Basketball Rules Book."
- C. Protruding fasteners or exposed bolt heads on front face of backboards are not permitted.

- D. Connections: Manufacturer's standard connections or connections recommended in writing by manufacturer and complying with Section 05 50 00 "Metal Fabrications" of size and type required to transfer loads to building structure.
- E. Overhead-Supported Backstops:
 - 1. Stationary Type: Manufacturer's standard assembly.
 - 2. Framing: Steel pipe, tubing, and shapes designed to minimize vibration during play.
 - a. Center or Dual-Mast Frame: Welded with cross bracing.
 - b. Finish: Manufacturer's standard polyester powder-coat finish.
- F. Basketball Backboards:
 - 1. Shape and Size:
 - a. Rectangular, 72 by 48 inches width by height.
 - 2. Backboard Material: Provide with predrilled holes or preset inserts for mounting goals, and as follows:
 - 3. Fiberglass: Minimum 1-1/2-inch-thick, composite backboard consisting of minimum two 3/16-inch-thick, molded-fiberglass panels laminated together over faces and edges encapsulating a 3/4-inch honeycomb core, reinforced at goal and backboard mountings, or a wood panel product core; with threaded inserts or embedded anchors for mounting backboard corners to support framing at standard Target Area and Border Markings: Marked in black, with manufacturer's standard pattern and stripe width.
 - 4. Finish: Manufacturer's standard factory-applied, white background.
- G. Goal-Mounting Assembly: Compatible with goal, backboard, and backstop; with manufacturer's standard hole pattern for goal attachment.
 - 1. Direct Mount: Designed for mounting goal directly and independently to center mast of backstop, so that no force is transmitted by ring directly to backboard, and rigidity and stability of goal are maximized.
- H. Basketball Goals: Basket ring complete with flanges, braces, attachment plate, and evenly spaced loops welded around underside of ring.
 - 1. Single-Rim Basket Ring Competition Goal: Materials, dimensions, and fabrication complying with referenced standard rules.
 - 2. Type:
 - a. Fixed: Nonmovable.
 - 3. Field Adjustment: Provide ring that is field adjustable for rebound elasticity without being removed from the backboard.
 - 4. Mount: Front.
 - 5. Net Attachment: No-tie loops for attaching net to ring without tying.
 - 6. Finish: Manufacturer's standard finish.
- I. Basketball Nets: 12-loop-mesh net, between 15 and 18 inches long, sized to fit ring diameter, and as follows:
 - 1. Cord: Made from white nylon.

2.3 EXERCISE EQUIPMENT

- A. Pull-up Bar: Wall mounted.
 - 1. Fixed height.
 - 2. Bar Length: Minimum 40 inches.
 - 3. Bar: Minimum 1-1/16-inch-diameter, round, plated solid-steel bar.
 - 4. Support Frame: Steel-angle end brackets attached to wood stringers, steel channels, or bars. Support frame welded to bar.
 - 5. Bar Installation Height and Wall Clearance: Height 84-inch and 90-inch and minimum 21 and 24 inches from wall.

- B. Box Step: Floor mounted.
 - 1. Welded steel plate box anchored to concrete deck.
 - 2. Box Size: 12-inch high, 12-inch deep, 12 to 14-inches wide. Nominal sheet thickness minimum 0.25 inch, ASTM A786 diamond plate, short end mounting flanges. Provide four concrete expansion anchors at each flange.
 - 3. Structural Performance of Step: Metal step withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - a. Uniform Load: 100 lbf/sq. ft.
 - b. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.

- C. Metal Finish: Mill finish for field painting.

- D. Metal Surfaces: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes. Steel Plates, Shapes, and Bars: ASTM A36/36M

2.4 SAFETY PADS

- 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. Performance Sports Systems.
 - 2. Porter Athletic Corporation.
 - 3. Spalding, a Russel Brands, LLC. company.

- B. Source Limitations: Obtain from single source from single manufacturer.

- C. Surface-Burning Characteristics: Comply with ASTM E84; testing 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.

- D. Pad Coverings: Provide safety pad fabric covering that is fabricated from puncture- and tear-resistant, PVC-coated polyester or nylon-reinforced PVC fabric, minimum 14-oz./sq. yd. and treated with fungicide for mildew resistance; with surface-burning characteristics indicated.

- E. Wall Safety Pads: Padded wall wainscot panels designed to be attached in a continuous row; each panel section consisting of fill laminated to backer board, with visible surfaces fully covered by seamless fabric covering, free of sag and wrinkles and firmly attached to back of backer board.
 - 1. Backer Board: Minimum 3/8-inch-thick plywood, mat formed, or composite panel.
 - 2. Fill: Multiple-impact-resistant foam, minimum 2-inch-thick bonded polyurethane, 6.0-lb/cu. ft. density.
 - 3. Size: Each panel section 24 inches wide by minimum 72 inches long.
 - 4. Number of Modular Panel Sections: As indicated on Drawings.
 - 5. Installation Method: 1-inch top and bottom fabric attachment flange with exposed fasteners.
 - 6. Fabric Covering Color(s): Manufacturers standard grey.

- F. Cutout Trim: Manufacturer's standard flanged cutout trim kits for fitting pads around switches, receptacles, and other obstructions.
 - 1. Color: Gray.

2.5 MATERIALS

- A. Support Cable: Manufacturer's standard galvanized-stranded-steel wire rope with a breaking strength of 7000 lb. Provide fittings according to the wire rope manufacturer's written instructions for size, number, and installation method.
- B. Castings and Hangers: Malleable iron, according to ASTM A47/A47M; grade as required for structural loading.
- C. Anchors, Fasteners, Fittings, and Hardware: Gymnasium equipment manufacturer's standard corrosion-resistant or noncorrodible units; concealed.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine tensile building structure, substrates, areas, and conditions, with Installer present, for compliance with requirements for court layout, alignment of mounting substrates, installation tolerances, operational clearances, and other conditions affecting performance of the Work.
 - 1. Verify critical dimensions.
 - 2. Examine supporting structure, subgrades, subfloors, and footings below finished floor.
 - 3. Examine wall assemblies, where reinforced to receive anchors and fasteners, to verify that locations of concealed reinforcements are clearly marked. Locate reinforcements and mark locations.

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

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions and competition rules for each type of gymnasium equipment.
- B. Install gymnasium equipment after other finishing operations, including painting, have been completed unless otherwise indicated.
- C. Permanently Placed Gymnasium Equipment and Components: Install rigid, level, plumb, square, and true; anchored securely to supporting structure; positioned at locations and elevations indicated; in proper relationship to adjacent construction; and aligned with court layout.
- D. Anchoring to In-Place Construction: Use anchors and fasteners where necessary to secure built-in and permanently placed gymnasium equipment to structural support and to properly transfer load to in-place construction.

3.3 INSTALLATION OF SAFETY PADS

- A. Mount with bottom edge at 4 inches above finished floor.
- B. Cutout Trim: Limit cuts in face of padding so that cuts are securely and fully concealed behind trim-kit flange.

3.4 ADJUSTING

- A. Adjust movable components of gymnasium equipment to operate safely, smoothly, easily, and quietly; free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range; and lubricate as recommended in writing by manufacturer.

END OF SECTION

SECTION 13 31 23 – PRE-ENGINEERED FABRIC STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Structural frame.
 - 2. Tensioned fabric.
 - 3. Thermal insulation.
 - 4. Accessories.

- B. Related Requirements:
 - 1. Section 08 34 53 "Security Doors and Frames" for entry and exit doors.

1.2 DEFINITIONS

- A. Pre-Engineered Fabric Structure: Frame supported tensioned membrane-covered fabric structure; incorporating a fabric with low elongation characteristics under tension.

1.3 COORDINATION

- A. Coordinate sizes and locations of structural subframing including anchorage connections.

- B. Coordinate fabric assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to pre-engineered fabric structures including, but not limited to, the following:
 - a. Condition of substructure and other preparatory work performed by other trades.
 - b. Structural load limitations.
 - c. Construction schedule. Verify availability of materials and erector's personnel, equipment, and facilities needed to make progress and avoid delays.
 - d. Required tests, inspections, and certifications.
 - e. Unfavorable weather and forecasted weather conditions and impact on construction schedule.

2. Review methods and procedures related to roof panel assemblies including, but not limited to, the following:
 - a. Compliance with requirements for purlin and rafter conditions, including attachment to structural members.
 - b. Structural limitations of purlins and rafters during and after fabric installation.
 - c. Flashings, special edge details, door penetrations, louver penetrations, ventilation hood penetrations, and condition of other construction that will affect fabric.
 - d. Temporary protection requirements for tensile fabric assembly during and after installation.
 - e. Supports for interior gymnasium equipment, mechanical equipment, sprinkler system, lights, fire detection system, and other applied elements.
 - f. Requirements and limitations for termination on interior partitions to fabric.
 - g. Fabric repair after erection.

3. Review methods and procedures related to pre-engineered fabric structures including, but not limited to, the following:
 - a. Compliance with requirements for support conditions, including alignment between and attachment to structural members.
 - b. Structural limitations of girts and columns during and after fabric installation.
 - c. Flashings, special fabric details, wall penetrations, openings, and condition of other construction that will affect tensile fabric.
 - d. Temporary protection requirements for pre-engineered fabric structure during and after installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of pre-engineered fabric structure components.
 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
 - a. Outer fabric.
 - b. Inner fabric.
 - c. Translucent fabric.
 - d. Thermal insulation.
 2. Include styles, material descriptions, construction details, fabrication details, dimensions of individual components and profiles, hardware, fittings, mounting accessories, features, and finishes for pre-engineered fabric structure .
 3. Include rated capacities, light transmissions, and operating characteristics of furnished specialties and accessories.

- B. Indicate components by others. Include full building plan, elevations, sections, details and the following:
 1. Substructure Plans: Submit plans and templates for substructure. Include connectors required to attach building structural frame to substructure. Indicate column reactions at each location.

2. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
 - a. In engineering pre-engineered fabric structure system fittings and accessories to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
 - 1) Steel: 72 percent of minimum yield strength.
 - 2) Stainless Steel: 60 percent of minimum yield strength.
 - 3) Aluminum: The lesser of minimum yield strength divided by 1.65 or minimum ultimate tensile strength divided by 1.95.
 3. Architectural Drawings: Show layouts of panels including plan, elevations, building sections, and methods of support. Include fabric attachment details, fabric seam locations, details of edge conditions, joints, corners, anchorages, trim, penetrations and penetration reinforcing, canopies, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
 - a. Show wall and roof mounted items including personnel doors, louvers, hoods, sprinkler piping connections, duct hanger connections, mechanical equipment hangers, lighting fixtures, fire alarm and detection connections, and other connection items.
 - b. Show extent of translucent panels.
 4. Accessory Drawings: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches:
 - a. Flashing and trim.
 - b. Closure fabric.
- C. Samples for Initial Color Selection: Fabrics with factory-applied finishes.
- D. Samples for Verification: For the following products:
1. Fabric: Provide three samples of nominal 8-1/2 by 11-inch samples of fabric as selected by Department and Architect.
 2. Frame Finish: Provide three sample chips, not less than 2 by 3-inches in size.
- E. Delegated Design Submittals: For pre-engineered fabric structure systems.
1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.
 2. Verify fabric tensioning meets minimum engineering requirements.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer, erector, and professional engineer.

- B. Welding certificates.
- C. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:
 - 1. Name and location of Project.
 - 2. Order number.
 - 3. Name of manufacturer.
 - 4. Name of erector.
 - 5. Building dimensions including width, length, height, and roof slope.
 - 6. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, aluminum sections, including edition dates of each standard.
 - 7. Governing building code and year of edition.
 - 8. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (backstops).
 - 9. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
 - 10. Building-Use Category: Indicate category of building use and its effect on load importance factors.
- D. Source quality-control reports.
- E. Field quality-control reports.
- F. Sample Warranty: For fabric warranty.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For pre-engineered fabric structure to include in operation and maintenance manuals.
 - 1. Include the following:
 - a. Methods for maintaining pre-engineered fabric structure fabrics and finishes.
 - b. Precautions regarding cleaning materials and methods that may be detrimental to fabrics, finishes, and performance.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials, from the same production run, to Department that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fabric Patch: Provide four 24 by 24 -inches or equal patch kits recommended by the manufacturer.
 - 2. Flashing At Openings: Provide one full size flashing replacement for each opening in the structure.
- B. Schedule of maintenance material items.

1.9 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Shop that employs skilled workers who custom-fabricate pre-engineered fabric structure similar to those required for this Project and whose products have a record of successful in-service performance.
1. Manufacturer must have proven record of at least 10 years with a minimum of 10 successful projects of similar size and similar specified fabric material.
 2. Manufacturer's responsibilities include fabricating and installing pre-engineered fabric structures and providing professional engineering services needed to assume engineering responsibility.
 3. pre-engineered fabric structure shall be detailed so that no life safety issue is created in the event of a loss of a part of the membrane. The pre-engineered fabric structure shall not rely on the membrane for structural stability.
 4. Welding Qualifications: Qualify procedures and personnel according to the following:
 - a. AWS D1.1, "Structural Welding Code - Steel."
 - b. AWS D1.2, "Structural Welding Code - Aluminum."
 - c. AWS D1.3, "Structural Welding Code - Sheet Steel."
- B. Erector's Qualifications: Authorized representative who is trained and approved by manufacturer who has been in continuous operation as a professional pre-engineered fabric structure manufacturer for minimum of 15 years prior to contract.
- C. Delegated Design Engineer: A professional engineer who is legally qualified to practice in Alaska where Project is located and who is experienced in providing engineering services of the type indicated.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, fabrics, panels, and other manufactured items so as not to be damaged or deformed. Package fabric for protection during transportation and handling.
- B. Unload, store, and erect structure in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store materials to ensure dryness, with positive slope for drainage of water. Do not store materials in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect fabric as follows:
1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 2. Protect against ignition at all times.
 3. Complete installation and concealment of insulation materials as rapidly as possible in each area of construction.

1.11 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of pre-engineered fabric structure in exterior locations to be performed according to Subcontractors' written instructions and warranty requirements.

1.12 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace pre-engineered fabric structure that fail(s) in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures, including framework, securement devices and accessories.
 - b. Deterioration of metal finishes, and other materials beyond normal use.
 - c. Deterioration of fabric finishes and seams, and other materials beyond normal weathering.
 - 2. Structural Frame and Cable Warranty Period: One year from date of Substantial Completion.
 - 3. Fabric Warranty Period: 25 years pro-rata from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design: Subject to compliance with requirements, provide the pre-engineered fabric structures designed, engineered, fabricated and installed by Sprung Instant Structures, Inc. 5711 West Dannon Way, West Jordan, UT, 84081
Toll Free Tel: 855.495.1122; Tel:: 385.247.3221, Fax: 801.280.7072;
Email: info@sprung.com
Web: www.sprung.com
or approved substitution.

2.2 SOURCE LIMITATIONS

- A. Obtain structure, fabric and accessories from single fabricator.
- B. For fabric, obtain each color, finish, type, and variety of fabric from single source with resources to provide materials of consistent quality in appearance and physical properties.
- C. For structure, obtain each color, grade, finish, type, and variety of metal from single source with resources to provide finish of consistent quality in appearance and physical properties.

2.3 SYSTEM DESCRIPTION

- A. Provide a complete, integrated set of mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior.
- B. Architect's drawings indicate design intent with respect to sizes, shapes, and configurations of the pre-engineered fabric structure. Provide all components and accessories required for complete pre-engineered fabric structure, whether or not specifically shown or specified.
- C. Primary-Frame Type:
 - 1. Rigid Clear Span: Solid-member, structural-framing system without interior columns.
- D. End-Wall Framing:
 - 1. Manufacturer's standard, for buildings not required to be expandable, consisting of primary frame, capable of supporting one-half of a bay design load, and end-wall columns.
- E. Secondary-Frame Type: Manufacturer's standard purlins and joists.

2.4 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design structural frame.
 - 1. All element sizes, material strengths, forces and quantities shown on the contract documents are to be taken as a developed concept. Final structural analysis and design are the responsibility of the Contractor. The Contractor shall be responsible at the time of bid to determine additional costs related to their design and member sizing for the fabric roof.
- B. Structural Performance: Pre-engineered fabric structure to withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
 - 1. Loads: As indicated on Drawings.
 - 2. Deflection and Drift Limits:
 - a. No greater than the following:
 - 1) Purlins and Rafters: Vertical deflection of 1/240 of the span.
 - 2) Lateral Drift: Maximum of 1/200 of the building height.
- C. Seismic Performance: Pre-engineered fabric structure to withstand the effects of earthquake motions determined in accordance with ASCE/SEI 7.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of seams, 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: 120 deg F, ambient; 180 deg F, material surfaces.

- E. Fire-Resistance Ratings: Where assemblies are indicated to have a fire-resistance rating, provide metal panel assemblies identical to those of assemblies tested for fire resistance per ASTM E119 or ASTM E108 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory," FM Global's "Approval Guide," or from the listings of another qualified testing agency.
- F. Structural Performance for Roof and Wall Fabric: Provide panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
 - 1. Wind Loads: As indicated on Drawings.
- G. Thermal Performance for Opaque Elements: Provide the following maximum U-factors and minimum R-values when tested according to ASTM C1363 or ASTM C518:
 - 1. Walls and Roof:
 - a. U-Factor: .04
 - b. R-Value: 25.

2.5 CANOPY FRAME, CABLES, FITTINGS AND ACCESSORIES

- A. General: Provide accessories as standard with pre-engineered fabric structure system Subcontractor and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by Contractor's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
- B. Frame material shall be constructed of structural steel sections or extruded aluminum sections.
- C. Steel and Iron:
 - 1. Tubing: ASTM A 500 (cold formed) or ASTM A 513.
 - 2. Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.
 - 3. Plates, Shapes, and Bars: ASTM A 36 or ASTM A 572 per engineering requirements.
- D. Aluminum:
 - 1. Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with strength and durability properties for each aluminum form required not less than that of alloy and temper designated below.
 - 2. Extruded Bars and Shapes: ASTM B 221, Alloy 6063-T5/T52.
- E. Accessories.
 - 1. Base Plates and Anchor Bolts.
 - a. Base plates supported steel subframe shall be furnished and set on shims, leveling plates or leveling nuts.
- F. Metal Battens for Securing Canopy Fabric to Structural Frame: Extruded aluminum.

2.6 CANOPY FABRIC MATERIALS

- A. Fire-Test-Response Characteristics: Provide canopy fabric with the fire-test-response characteristics indicated, as determined by testing identical products according to test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Flame-Resistance Ratings: Passes NFPA 701.
 - 2. Noncombustible: Passes ASTM E-136 and E-108
 - 3. Flame Spread: ASTM E-84 Class A

- B. Outer Fabric: Polyester scrim with Tedlar coating.
 - 1. Scrim weight: 3.2 oz/sq. yd.
 - 2. Finish Coated Weight: 24.0 oz/sq yd.
 - 3. Tongue tear (Method 5134): 110/110 lbs.
 - 4. Trapezoid Tear (Method 5136): 35/40 lbs
 - 5. Grab Tensile (Method 5100): 260/260 lbs
 - 6. Strip Tensile (Method 5102): 200/200 lbs./in.
 - 7. Hydrostatic Resistance (Method 5512): 350 psi
 - 8. Cold Crack (MIL-C-20696C LTC Para. 4.4.6): Pass -40F.
 - 9. Wicking: 1/8" maximum

- C. Inner Fabric: Polyester.
 - 1. Scrim weight: 14 oz/sq. yd.

2.7 INSULATION

- A. Glass-Fiber Blanket Insulation, Unfaced: ASTM C665, Type I; formaldehyde-free, passing ASTM E136 for combustion characteristics.

2.8 FABRICATION

- A. Fabricate pre-engineered fabric structure for bolted/pinned connections for field assembly. No field welding will be permitted.

- B. Door and louver openings shall not compromise vertical or horizontal tension of fabric panels.

2.9 GENERAL FINISH REQUIREMENTS

- A. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine structural metal framing and other substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ERECTION

- A. Erection shall be performed under the direct observation of an authorized erector.
- B. Proceed with installation of pre-engineered fabric structure only when existing and forecasted weather conditions will permit work to be performed in accordance with Subcontractor's recommendations.
- C. Erect frame and fabric in accordance with the procedures of the approved manufacturer and Subcontractor.
- D. Adequate prestress shall be applied to eliminate fabric wrinkles and excess cable sag.

3.3 FIELD QUALITY CONTROL

- A. Installer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Prepare test and inspection reports.
- C. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- D. Tests and Inspections:
 - 1. Recommended by the Manufacturer.
- E. Prepare test and inspection reports.

3.4 PATCHING AND REPAIRING

- A. Patching must be done by trained and authorized personnel.
- B. Minor repairs are defined as:
 - 1. A patch, no larger than 1-percent of the area of the fabric panel.
 - 2. Sewn or sealed reinforcement at corners or joints, sewing and sealing no greater than 12 inches in length.

- C. No membrane panels shall have more than one patch.
- D. No more than two patches shall be allowed for the entire project.
- E. Sewn or sealed reinforcement is allowed at all corners.

3.5 PROTECTION

- A. Remove and replace components that are wet, moisture damaged, or mold damaged.

END OF SECTION