

PROJECT MANUAL

For the Construction of:

DPW Project No. 21-239 Siding and Window Replacement Pulling Courts Idaho State University Pocatello, Idaho

Agency Construction Approval No. 1 for project 2021239 ISU: Pulling Courts Housing Siding & Window Replacement

2021239 ISU: Pulling Courts Housing Siding & Window Replacement
1875 S 20th Ave Pocatello, ID 83404
Project Number: 2021239

August 2021

Agency Construction Approval

CONSTRUCTION APPROVAL BY RESPONSIBLE CHIEF OFFICER OF INSTITUTION OR AGENCY
(IDAHO CODE 67-5710)

This is to indicate that I or my designated staff have reviewed the final plans and specifications for:
2021239 ISU: Pulling Courts Housing Siding & Window Replacement

DPW Project No.
2021239

This project incorporates the required program elements within the funding limitations authorized, and authorizes the Division of Public Works to proceed with bidding of the project. If acceptable bids are received, I will approve awarding a contract and construction of the facilities in accordance with the plans and specifications.

Agency:
Agency Signature Authority:

Approval **Approved** Date: 21-03-2021

Name or Role	Status	Action
1 Agency - Signature Authority	Approved Cindy Hanson 15-Sep-2021 07:25 AM MST	
2 Project Manager	Approved Mark Sankoy 10-Sep-2021 07:54 AM MST	Comments: Add note on sheet AS-1 Arch/Bed and Contractor required to coordinate roofing with Josh Lewis, State Roofing Program Manager
3 Project Manager Senior	Approved Margie Kennedy DR, PhD 14-Aug-2021 10:46 AM MST	
4 DPW Administrator	Approved Pat Donahoe 14-Aug-2021 11:48 AM MST	

Created by: Mark Sankoy on 25-Aug-2021. Last Modified by: Mark Sankoy on 25-Aug-2021



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Project Manual

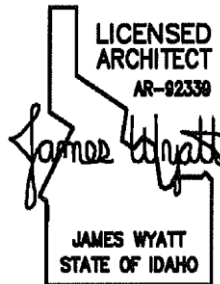
for

**DPW Project No. 21-239
Siding and Window Replacement
Pulling Courts
Idaho State University
Pocatello, Idaho**

August 2021

Architect's Project No. 21001

ARCHITECTS:



NBW Architects, P.A.
990 John Adams Parkway
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Telephone: (208) 522-8779
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ADVERTISEMENT FOR BIDS

Sealed proposals will be received by the Division of Public Works, State of Idaho, at **DPW Field Office 611 Wilson Street, Suite #1, Pocatello, Idaho 83201** until **2:00 pm** local time, on **Tuesday, November 16, 2021** for **DPW Project 21239 Siding and Window Replacement, Pulling Courts, Idaho State University, Pocatello, Idaho.**

A description of the work of this project can be summarized to include but is not limited to removing and replacing existing wood siding with vinyl siding. Also, to include the replacement of windows with aluminum clad wood double hung windows.

Proposals will be opened and publicly read at the above hour and date.

Plans, specifications, proposal forms and other information are on file for examination at the following locations:

State of Idaho Division of Public Works, 502 N. 4th St., Boise, ID 83702 (208) 332-1900
Associated General Contractors, 1649 W Shoreline Dr., Ste. 100, Boise, ID 83702 (208) 344-2531
<https://www.idahoagc.org/plan-room>

Blueprint Specialties, 6205 W. Overland Rd., Boise, ID 83709 (208) 377-0294 www.docuproject.com
NBW Architects, P.A., 990 John Adams Parkway, Idaho Falls, ID 83401 (208) 522-8779
www.nbwarchitects.com

There will be a Pre-Bid Conference on **Wednesday, October 27, 2021**, beginning at **11:00 am**, prevailing local time, at the **job site, 756 S. 10th Ave. Pocatello, Idaho 83201**. Bidders are encouraged to attend.

One set of documents may be obtained by licensed general contractors from the Architect for a refundable deposit of **\$50.00**. Others may obtain documents at cost, non-refundable.

A bid bond in the amount of 5% of the total bid amount, including any add alternates, is required. A Public Works Contractor's License for the State of Idaho is required to bid on this work.

Estimated Cost: **\$500,000**

Barry J. Miller, Deputy Administrator, Division of Public Works

END OF ADVERTISEMENT FOR BID

OTHER PUBLICATIONS: Copies may have been furnished for INFORMATIONAL PURPOSES ONLY to the following:

Department of Administration
Associated General Contractors
AGC Magic Valley
AGC Idaho Falls
AGC North Idaho

Daily Journal of Commerce, Seattle
Intermountain Contractor, SLC
Idaho Business Review
Idaho Plan Room
Idaho Sub-Contractors Bid Service
Daily Journal of Commerce, Portland

Coordinator for this project is Peggy Birk

INSTRUCTIONS TO BIDDERS

GENERAL PROVISIONS

DEFINITIONS: Capitalized terms used in these Instructions to Bidders (“Instructions”) shall have the meaning given to them in the Division of Public Works’ Fixed Price Construction Contract Between Owner and Contractor.

HEADINGS: Headings used in these Instructions are for convenience only.

REJECTION OF BIDS, WAIVER OF INFORMALITIES OR CANCELLATION: Prior to the effective date of a contract, the Administrator of the Division of Public Works shall have the right to accept or reject all bids, to waive any minor deviations/informalities or to cancel the bid.

ORAL INFORMATION: Questions concerning a bid must be directed in writing to the designated Design Professional (architect or engineer) no less than ten (10) calendar days before bids are due unless provided otherwise via an addendum. Oral information is not binding and any reliance by a bidder on any oral information or representation is at the bidder’s sole risk. Any information given a prospective bidder in response to a written question will be provided to all prospective bidders by an addendum, if such information is necessary for purposes of submitting a bid or if failure to give such information would be prejudicial to uninformed bidders.

PUBLIC RECORDS: The Idaho Public Records Law, Title 74, Chapter 1, Idaho Code, allows the open inspection and copying of public records. Public records include any writing containing information relating to the conduct or administration of the public's business prepared, owned, used or retained by a State or local agency regardless of the physical form or character. Unless exempted by the Public Records Law, your bid will be a public record subject to disclosure under the Public Records Law. Any questions regarding the applicability of the Public Records Law should be addressed to your legal counsel prior to submission.

FORM OF AGREEMENT: Unless otherwise specified in the bid documents, the agreement between the successful bidder and the Owner (“State of Idaho”) shall be the Division of Public Works’ Fixed Price Construction Contract Between Owner and Contractor.

PERFORMANCE AND PAYMENT BONDS: A performance bond and payment bond are required for this Project, each in an amount of not less than one hundred percent (100%) of the Contract Price. The performance and payment bonds shall be AIA Document A312, 1984 or the most recent Edition, or a standard surety form certified approved to be the same as the AIA A312 form and shall be executed by a surety or sureties reasonably acceptable to the Owner and authorized to do business in the State of Idaho. Bonds must be provided within ten (10) calendar days following receipt of a Notice of Intent to Award.

BID SUBMISSION PROCESS

BID DOCUMENTS: The bid documents are available from the Design Professional or as provided in the Invitation to Bid or advertisement for bids. The responsibility is on the bidder to use a complete set of bid documents to prepare its bid and neither the Owner nor the Design Professional shall incur any

liability for the bidder's failure to do so. Bidders obtain no ownership interest or any use rights, except to use in preparation of their bid, by issuance of the bid documents.

Bidders and Sub-bidders shall field verify all dimensions pertaining to the Work and shall be responsible for the determination of all quantities of materials required for the completion of the Work. The bidder shall not rely on the scale drawings of the Bidding Documents in his determination of required materials quantities. No allowance shall be made for Bidder's failure to field-verify dimensions.

If a deposit is required, the deposit will be returned to a bidder returning the complete bid documents in good condition no more than twenty (20) days after a Notice of Intent is issued and the amount of any deposit returned may be reduced if the bid documents returned are not complete or are damaged. A bidder awarded a Contract may also keep the bid documents and any deposit will be returned.

ADDENDA: In the event it becomes necessary to revise any part of the bid documents, addenda will be issued. Information given to one bidder will be available to all other bidders if such information is necessary for purposes of submitting a bid or if failure to give such information would be prejudicial to uninformed bidders. It is the bidder's responsibility to check for addenda prior to submitting a bid. A bidder is required to acknowledge receipt of all addenda by identifying the addenda numbers in the space provided on the bid proposal form. Failure to do so may result in the bid being declared non-responsive. No addenda will be issued less than four (4) calendar days before the closing date unless the bid closing date is extended.

REVIEW: It is the bidder's responsibility to review the bid documents and compare them as needed, including with regard to any other work that is or may be under construction that might affect the bidder or its work, to examine the site and local conditions and to report, in writing, any questions, errors, inconsistencies or ambiguities to the Design Professional.

PRODUCTS SPECIFIED AND PROPOSED SUBSTITUTIONS: Materials, products or equipment, if specified by name or manufacturer, establish the standard of quality required and that must be met by any proposed substitution. Requests for substitutions must be made in writing to the Design Professional no less than ten (10) calendar days prior to the bid closing unless provided otherwise via an addendum. Such requests must provide detailed information to allow the Design Professional to determine if the proposed substitution is acceptable, including drawings or performance or test data and a detailed statement of how the substitution would change any other part of the Work. It is the bidder's obligation to satisfy this requirement and the Design Professional's decision shall be final. To be allowed, substitutions must be approved in an addendum to the bid documents.

BID FORM: Bids must be submitted on the bid proposal forms, or copies of forms, furnished by the Owner or the design professional. Bids submitted must contain all original signatures in ink on the following forms:

Bid Proposal Form
Contractor's Affidavit Concerning Alcohol and Drug-Free Workplace
Bidder's Acknowledgment Statement
Bid Bond (bid security)

The person signing the Bid Proposal Form must initial any and all changes appearing on any of the bid forms. If the bidder is a corporation or other legal entity, the bid forms must be signed by an authorized designee. Oral, telephonic, telegraphic, facsimile or other electronically transmitted bid forms and/or signatures will not be considered.

BID PRICES: The bid form may require bidders to submit bid prices for one (1) or more items on various bases, including lump sum base bid, lump sum bid alternate prices, unit prices or any combination thereof. Bid amounts shall be expressed in words and numbers. The amount in words shall prevail if there is a discrepancy.

ALTERNATES: If the solicitation includes alternate bid items or unit prices, failure to bid on the alternates or unit prices may disqualify the bid. If bidding on an alternate does not change the base bid, indicate by "No Change." If bidding on all items is not required by the Contract Documents, bidders must affirmatively indicate that they are not bidding on those items.

TIME FOR SUBMISSION: Bids must be submitted on or before the time specified in the advertisement for bids. Any bid submitted late will be rejected.

SEALED ENVELOPE: Bids shall be submitted in a sealed envelope with the following clearly printed on the outside of the envelope: the Project number and Project name; the name and address of the bidder; and a statement, such as "BID ENCLOSED" to indicate that it is a bid.

MAILED BIDS: When bids are mailed or shipped, the sealed envelope containing the bid shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof. If mailed, the mailing envelope shall be addressed as follows:

Division of Public Works
611 Wilson Street, Suite 1
Pocatello, Idaho 83404

It is the bidder's responsibility to ensure that its bid is delivered to the place designated for receipt on or before the specified closing time. The Owner assumes no responsibility for delays in the delivery of mail by the U.S. Post Office or private couriers. Bidders should be advised the intra-state mail system may increase delivery time from arrival at Central Postal to the place designated for receipt and should plan accordingly. **LATE SUBMISSIONS WILL BE REJECTED, WILL NOT BE OPENED AND WILL BE RETURNED TO THE BIDDER. NO DEVIATIONS WILL BE ALLOWED.**

BID CLOSING DECLARED: Immediately prior to the bid opening, the Owner's representative will declare the official bid closing. Any part of a bid not received prior to the bid closing declared by the designated representative will not be considered and will be returned to the bidder unopened. All bids shall be taken under advisement.

DRUG-FREE WORKPLACE: Along with its bid, the bidder shall submit an affidavit certifying compliance with Title 72, Chapter 17, Idaho Code, requiring the Contractor and its subcontractors at the time of bid to provide a drug-free workplace program and to maintain such program throughout the duration of the Contract. The form of affidavit is attached.

ILLEGAL ALIENS: Bidder shall warrant that the bidder does not knowingly hire or engage any illegal aliens or persons not authorized to work in the United States; bidder shall take steps to verify that it does not hire or engage any illegal aliens or persons not authorized to work in the United States; and that any misrepresentation in this regard or any employment of persons not authorized to work in the United States constitutes a material breach and shall be cause for the imposition of monetary penalties and/or termination of any Contract resulting from this bid.

LEGAL RESIDENCY REQUIREMENT: By submitting a bid, the bidder attests, under penalty of perjury, that he (the bidder) is a United States citizen or legal permanent resident or that it is otherwise lawfully present in the United States pursuant to federal law. Prior to being issued a contract, the bidder will be required to submit proof of lawful presence in the United States in accordance with §67-7903, Idaho Code.

BIDDER'S ACKNOWLEDGEMENT STATEMENT: The attached Bidder's Acknowledgement Statement must be completed and included or the bid may be found non-responsive.

PUBLIC WORKS CONTRACTOR'S LICENSE: Contractor shall be required to have a current license as a public works contractor in the State of Idaho at the time of bid on this Project.

IDAHO LABOR REQUIREMENTS: This Project is subject to the provisions of Sections 44-1001 and 44-1002, Idaho Code, dealing with labor preference.

IDAHO PREFERENCE LAW: Section 67-2348, Idaho Code, requires the Division of Public Works to apply a preference in determining which Contractor submitted the lowest responsible bid. If the Contractor who submitted the lowest dollar bid is domiciled in a state with a preference law that penalizes Idaho domiciled contractors, the Division of Public Works must apply the preference law (percentage amount) of that domiciliary state to that Contractor's bid.

NAMING OF SUBCONTRACTORS: Section 67-2310, Idaho Code, requires general (prime) Contractors to include in their bid the name of the subcontractors who shall, in the event the Contractor secures the Contract, subcontract the plumbing, HVAC, and electrical work under the general (prime) Contract. Failure to name subcontractors as required by this section shall render any bid submitted by a general (prime) Contractor nonresponsive and void. Subcontractors named in accordance with the provisions of this section must possess an appropriate license or certificate of competency issued by the State of Idaho covering the Contractor work classification in which the subcontractor is named.

The Division of Public Works interprets Section 67-2310, Idaho Code, to mean three (3) separate areas of work: plumbing work, HVAC, and electrical work. The Division of Public Works also requires that the general (prime) Contractor name the entity that will perform the Work, including if the entity is a subcontractor, a sub-subcontractor or the general (prime) Contractor submitting the bid. Failure to complete the Bid Proposal in full shall render a bid nonresponsive and void.

With regard to possessing an appropriate license or certificate of competency, all subcontractors listed by the general (prime) Contractor must have at the time of the bid opening a current license in the appropriate category (class, type and specialty category) as issued by the Public Works Contractors State License Board. In addition, plumbing, HVAC and electrical subcontractors shall have at the time of the bid opening a valid plumbing contractor's license, HVAC contractor's license or electrical contractor's license, respectively, as issued by the Idaho Division of Building Safety.

In determining if the above listed subcontractors are required on the Project, the Division of Public Works will refer to the plans and specifications. If doubt exists prior to bid closing, potential bidders should contact the Division of Public Works and the Design Professional who prepared the plans and specifications will be requested to make the determination. If plumbing, HVAC or electrical work are not shown on the plans and specifications, but are discovered by the bidder prior to the date of bid opening, then the bidder must request clarification from the Design Professional. Absent such clarification, Work will be considered incidental and naming of a subcontractor will not be required.

BID SECURITY

AMOUNT AND FORM OF SECURITY: To be considered, bids must be accompanied by an acceptable bid security in an amount not less than five percent (5%) of the total amount of the bid, including additive alternates. The security may be in the form of a bond or a certified or cashier's check. A standard surety bid bond form meeting all the conditions of AIA Document A310 is acceptable and, if used, must include a certified and current copy of the power of attorney if the bond is executed by the attorney-in-fact on behalf of the surety.

FORFEITURE: A successful bidder who fails to sign the Contract for the Work or furnish the required bonds within ten (10) calendar days following the receipt of notice of intent to award a Contract is subject to forfeiture in accordance with Section 54-1904E, Idaho Code.

RETENTION OF SECURITY: Bid security shall be retained for no more than forty-five (45) calendar days after the opening of bids, so long as the bidder has not been notified of the acceptance of the bid.

BID WITHDRAWAL

PRIOR TO BID CLOSING: If a bid has been submitted, it may be withdrawn in person by a bidder's authorized representative before the opening of the bids. A bidder's representative will be required to show identification and sign on a bid summary sheet before it will be released. After bid closing, no bid may be withdrawn except in strict accordance with these Instructions or applicable law.

BID MODIFICATION

PRIOR TO BID CLOSING: If a bid has been submitted, it may be modified by the submission of a written document contained in a separate sealed envelope marked "Bid Modification from [Name of Bidder] for DPW Project No: 21-239; Siding and Window Replacement, Pulling Courts, Idaho State University, Pocatello, Idaho" **THE DOCUMENT MODIFYING THE BID MUST BE SIGNED IN INK BY AN AUTHORIZED REPRESENTATIVE OF THE SUBMITTING BIDDER. THE DIVISION OF PUBLIC WORKS RESERVES THE RIGHT TO REQUIRE PRESENTATION OF EVIDENCE SATISFACTORY TO IT TO ESTABLISH THE AUTHORITY TO ACT ON BEHALF OF THE SUBMITTING BIDDER. NO OTHER FORM OF MODIFICATION (INCLUDING TELEPHONE, FACSIMILE OR ELECTRONIC MAIL) WILL BE ACCEPTED. AFTER BID CLOSING, NO BID MAY BE MODIFIED EXCEPT IN STRICT ACCORDANCE WITH THESE INSTRUCTIONS OR APPLICABLE LAW.**

RELIEF FROM BIDS

CONDITIONS FOR RELIEF: Relief from bids is subject to Sections 54-1904B through 54-1904E, Idaho Code. In the event a bidder discovers a mistake in its bid following the bid opening and wishes to withdraw its bid, the bidder shall establish to the satisfaction of the Owner, pursuant to Section 54-1904C, Idaho Code, that a clerical or mathematical mistake was made; the bidder gave the public entity (Owner) written notice within five (5) calendar days after the opening of the bid of the mistake, specifying in the notice in detail how the mistake occurred; and the mistake was material.

DETERMINATION: If the Owner determines that the bidder has satisfied the requirements of Section 54-1904C, Idaho Code, to entitle it to relief from a bid because of a mistake, it shall prepare a report in writing to document the facts establishing the existence of each required element. The report shall be available for inspection as a public record and shall be filed with the public entity soliciting bids. A bidder claiming a mistake and satisfying all the required conditions of Section 54-1904C, Idaho Code, shall be entitled to relief from the bid and have any bid security returned by the Owner. Bidders not satisfying the conditions of Section 54-1904C, Idaho Code shall be subject to forfeiture in accordance with Section 54-1904B, Idaho Code. A bidder who claims a mistake or who forfeits its bid security shall be prohibited from participating in any re-bidding of that project on which the mistake was claimed or security forfeited and the Owner may award the Contract to the next lowest responsive and responsible bidder.

BIDDER'S REPRESENTATIONS

REPRESENTATIONS UPON SUBMITTING A BID: By submitting its bid, a bidder represents and warrants the following:

1. The person signing the bid is authorized to bind the bidder;
2. It has all required licenses, permits or other authorizations necessary to submit its bid;
3. It has taken steps necessary to ascertain the nature and location of the Work and has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited to: (i) conditions bearing upon transportation, disposal, handling and storage of materials; (ii) the availability of labor, water, natural gas, electric power and roads; (iii) uncertainties of weather, river stages or similar physical conditions at the site; (iv) the conformation and conditions of the ground; and (v) the character of equipment and facilities needed preliminary to and during the Work;
4. It has satisfied itself as to character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Owner as well as from the drawings and specifications provided as part of the bid package, and that any failure of the bidder to take such actions will not relieve the bidder from responsibility for estimating properly the difficulty and cost of successfully performing the Work;
5. It has received, read and reviewed the Contract, has submitted any questions in writing regarding the same and has received an answer to such questions;
6. Its bid is based upon the requirements of the Contract without exception;
7. It is in compliance with Title 72, Chapter 17, Idaho Code, regarding a drug-free workplace and has included the required affidavit regarding the same;
8. Its bid is in compliance with employment of persons authorized to work in the United States;
9. It will retain bid security and hold and honor all base bid prices for forty-five (45) calendar days from the date of bid opening, and cannot be withdrawn after the bid opening;
10. Its bid prices shown for each item on the bid proposal form include all labor, material, equipment, overhead and compensation to complete all of the Work for that item; and
11. It has included in its bid amount Idaho sales and/or use taxes on all materials and equipment and all other taxes imposed by law.

BID AWARD

AWARD METHOD: Public works construction contracts for the State of Idaho are awarded to the "lowest responsible and responsive bidder." The low bidder, for purposes of award, shall be the responsible and responsive bidder offering the low aggregate amount for the base bid item, plus any additive or deductive bid alternates selected by the Owner, and within funds available as determined by the Owner. Award is also subject to the requirements of Idaho Code, including without limitation: Title 67, Chapter 57; Title 67, Chapter 23; Title 54, Chapter 19; and Title 44, Chapter 10. It is the bidder's responsibility to conform to **ALL** applicable federal, state and local statutes or other applicable legal requirements. The information provided herein is intended to assist bidders in meeting applicable requirements but is not exhaustive and the Owner will not be responsible for any failure by any bidder to meet applicable requirements.

DETERMINATION OF RESPONSIBILITY: The Owner reserves the right to make reasonable inquiry about or from the submitting bidder or from third parties to determine the responsibility of a submitting bidder. Such inquiry may include, but not be limited to, inquiry regarding experience and expertise related to the Project, manpower and other resources, financial stability, credit ratings, references, potential subcontractors and past performance. The unreasonable failure of a submitting bidder to promptly supply any requested information may result in a finding of non-responsibility.

NOTICE OF EFFECTIVENESS: No Contract is effective until the authorized Owner's official has signed the Contract and the Notice to Proceed has been issued. The bidder shall not provide any goods or render services until the Contract has been signed by the Administrator of the Division of Public Works and the Contract has become effective. Furthermore, the Owner is in no way responsible for reimbursing the bidder for goods provided or services rendered prior to the signature of the authorized Division of Public Work's official and the arrival of the Notice to Proceed.

INCURRING COSTS: The Owner is not liable for any cost incurred by bidders prior to the Notice to Proceed.

PRIOR ACCEPTANCE OF DEFECTIVE BIDS OR PROPOSALS: The Owner generally will not completely review or analyze bids that appear to fail to comply with the requirements of the bid documents, nor will the Owner generally investigate the references or qualifications of those who submit such bids. Therefore, any acknowledgment that the selection is complete shall not operate as a representation by the Owner that an unsuccessful bid was responsive, complete, sufficient or lawful in any respect.

POST-AWARD SUBMITTALS: Upon receipt of a Notice of Intent to Award, the apparent low responsive and responsible bidder shall provide documentation required in such Notice. Such Notice of Intent to Award shall generally require the bidder to return to the Owner, within ten (10) days of receipt, a signed Contract, all required bonds, proof of insurance and documentation required by the Idaho State Tax Commission (report and affidavit).

OWNER'S RIGHT TO REJECT: Prior to execution of the Contract, the Owner or Design Professional shall provide written notice of any reasonable objection to any person or entity proposed by the bidder. Upon receipt of such notice, the bidder may withdraw its bid, without forfeiture, or propose a substitute and identify any change in any bid amount caused by such substitution. The Owner may accept or reject the substitution or the adjusted price. If the Owner rejects the substitution or the adjusted price, it will return the bidder's bid guarantee.

END OF INSTRUCTIONS

BID PROPOSAL

TO: STATE OF IDAHO
DIVISION OF PUBLIC WORKS

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for the construction of DPW Project No. 21-239 Siding and Window Replacement, Pulling Courts, Idaho State University, Pocatello, Idaho, having examined the bidding and Contract Documents and the site of the proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials and supplies and to provide the service and insurance in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents.

Bidder hereby agrees to commence Work under this Contract on a date to be specified in the written "Notice to Proceed" of the Owner and to substantially complete the Project within 150 consecutive calendar days thereafter, as stipulated in the specifications. Bidder further agrees to pay as liquidated damages, the sum of \$250.00 for each consecutive calendar day after the established substantial completion date or adjusted date as established by change order.

Bidder acknowledges receipt of Addenda No. _____.
(List all Addenda)

BASE PROPOSAL: Bidder agrees to perform all of the base proposal Work described in the specifications and shown on the plans for the sum of:

_____ Dollars (\$_____)
(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

UNIT PRICE PROPOSAL – GYPSUM REPLACEMENT AND PAINTING: It is anticipated that gypsum will need to be replaced at some of the interior window surrounds. Since the exact number of windows that will require gypsum replacement is not possible to determine at this time, the bidder’s unit price for gypsum replacement and painting shall be multiplied by 40 windows and added to the bidder’s base bid price and included in the Fixed Price Contract Amount to determine the low responsive bid. The Fixed Price Contract Amount will be increased or decreased by multiplying the actual number of windows requiring replacement of gypsum by the unit price.

_____ Dollars (\$_____) x 40 windows = \$ _____

UNIT PRICE PROPOSAL – WOOD SHEATHING REPLACEMENT: It is anticipated that some exterior wood sheathing is deteriorated and will need to be replaced. Since the exact quantity of sheathing that will require replacement is not possible to determine at this time, the bidder’s unit price for wood sheathing replacement shall be multiplied by 30 4’x8’ sheets and added to the bidder’s base bid price and included in the Fixed Price Contract Amount to determine the low responsive bid. The Fixed Price Contract Amount will be increased or decreased by multiplying the actual number of wood sheathing sheets requiring replacement by the unit price.

_____ Dollars (\$_____) x 30 sheets = \$ _____

BASE PROPOSAL PLUS UNIT PRICES:

_____ Dollars (\$_____)
(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding.

The bidder agrees that this bid shall be good for a period of forty-five (45) calendar days after the scheduled opening time for receiving bids.

Upon receipt of written Notice of Intent to Award of this bid, Bidder will execute the formal Contract within ten (10) calendar days and deliver a Surety Bond or Bonds as required by paragraph "Performance and Payment Bonds" first page (ITB-1) of the Instructions to Bidders.

The bid security in the amount of five percent (5%) of the bid amount is to become the property of the Owner, in the event the Contract and bond are not executed within the time set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

The names and addresses of the entities who will perform the Work identified below, subject to approval of Owner and Architect, if Undersigned is awarded the Contract, are as follows:

Electrical (PWCL Category 16000)

(Name) _____

(Address) _____

Idaho Public Works Contractors License No. _____

Idaho Electrical Contractors License No. _____

FAILURE TO NAME A PROPERLY LICENSED SUBCONTRACTOR IN EACH OF THE ABOVE CATEGORIES WILL RENDER THE BID UNRESPONSIVE AND VOID.

Should the listing of subcontractors change due to selection of alternates or other similar circumstances, attach explanation.

Bidder warrants that bid has been prepared and that any contract resulting from acceptance of this bid is subject to the Fixed Price Construction Contract.

The undersigned notifies that it is of this date duly licensed as an Idaho Public Works Contractor and further that it possesses Idaho Public Works Contractor's License No. _____, and is domiciled in the State of _____.

Dated this _____ day of _____, _____.
(date) (month) (year)

Respectfully submitted by:

(Contractor's Name- Typed)

SEAL

(Seal - if bid is by a corporation)

(Street or PO Address)

(City, State and zip code)

(Authorized Signature)

(Title)

(Telephone Number)

(FAX Number)

(Email Address)

Have you remembered to include bid security (bid bond or a certified or cashier's check), Contractor's Affidavit Concerning Alcohol and Drug-Free Workplace and a signed copy of the Bidder's Acknowledgment Statement with your bid?

Execute and Submit with Bid

**CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE**

STATE OF _____

COUNTY OF _____

Pursuant to the Section 72-1717, Idaho Code, I, the undersigned, being duly sworn, depose and certify that _____ is in compliance with the provisions of Section 72-1717, Idaho Code; that _____ provides a drug-free workplace program that complies with the provisions of Title 72, Chapter 17, Idaho Code, and will maintain such program throughout the life of a state construction contract; and that _____ shall subcontract Work only to subcontractors meeting the requirements of Section 72-1717(1)(a), Idaho Code.

Name of Contractor

Address

City and State

By: _____
(Signature)

Subscribed and sworn to before me this _____ day of _____, _____.

NOTARY PUBLIC
Residing at: _____
Commission expires: _____

FAILURE TO EXECUTE THIS AFFIDAVIT AND SUBMIT IT ALONG WITH YOUR BID SHALL MAKE YOUR BID NON-RESPONSIVE.

Execute and Submit with Bid

BIDDER'S ACKNOWLEDGMENT STATEMENT

NOTE: THE INFORMATION CONTAINED HEREIN IS A SUMMARY OF VITAL CONTRACT PROVISIONS AND DOES NOT CHANGE THE CONTRACT DOCUMENTS THAT WILL GOVERN THIS PROJECT.

Division of Public Works Project No. 21-239, Siding and Window Replacement, Pulling Courts, Idaho State University, Pocatello, Idaho.

By submitting a bid for this Project, the undersigned bidder agrees that, if awarded the Contract for construction, Contractor will conform to all conditions and requirements of the Contract, including but not limited to:

- Contractor agrees to comply with conditions pertaining to Sections 44-1001 and 44-1002, Idaho Code, requiring the employment of ninety-five percent (95%) bona fide Idaho residents and providing for a preference in the employment of bona fide Idaho residents and regarding the employment of persons not authorized to work in the United States.
- Contractor will substantially complete the Work within the time stated in the Contract Documents, or as modified by Change Order(s).
- If the Contractor fails to substantially complete the Project within the time stated in the Contract Documents, or as modified by Change Order, the Contractor agrees that the Owner may deduct from the Contract amount liquidated damages in the amount per calendar day, indicated in the Contract Documents, times the number of calendar days until the Project is Substantially Complete, as defined in the Contract Documents and as determined by the Design Professional.
- The Contractor agrees that the amount allowed for overhead and profit on any Change Order is limited to the amounts indicated in subparagraph 16.3.11 of the Fixed Price Construction Contract Between Owner and Contractor.
 1. For total changes the amount allowed for overhead, profit, bonds and insurance for the Contractor and all subcontractors of any tier combined shall not exceed fifteen percent (15%) of direct costs; or
 2. The Contractor will determine the amount of overhead and profit to be apportioned between the Contractor and its subcontractor of allowable amounts of overhead, profit, bonds and insurance.
- The Contractor agrees that Change Orders are governed by the Fixed Price Construction Contract Between Owner and Contractor General Conditions of the Contract for Construction including as follows:
 1. By the execution of a Change Order, the Contractor agrees and acknowledges that it has had sufficient time and opportunity to examine the change in Work which is the subject of the Change Order and that it has undertaken all reasonable efforts to discover and disclose any concealed or unknown conditions which may, to any extent, affect the Contractor's ability to perform in accordance with the Change Order. Aside from those matters specifically set forth in the Change Order, the Owner shall not be obligated to make any adjustments to either the Contract Sum or

Contract Time by reason of any conditions affecting the change in Work addressed by the Change Order that could have reasonably been discovered or disclosed by the Contractor's examination.

2. Any Change Order fully executed by the Owner, Contractor and Design Professional, including but not limited to, a Change Order arising by reason of the parties' mutual agreement or by mediation, shall constitute a final and full settlement of all matters relating to or affected by the change in the Work, including but not limited to, all direct and consequential costs associated with such change and any and all adjustments to the Contract Price and Contract Time. In the event a Change Order increases the Contract Price, the Contractor shall include the Work covered by such Change Order in the Application for Payment as if such Work was originally part of the Project and Contract Documents.
- **Certification Concerning Boycott of Israel.** Pursuant to Idaho Code section 67-2346, if payments under the Contract exceed one hundred thousand dollars (\$100,000) and Contractor employs ten or more persons, Contractor certifies that it is not currently engaged in, and will not for the duration of the Contract engage in, a boycott of goods or services from Israel or territories under its control. The terms in this section defined in Idaho Code section 67-2346 shall have the meaning defined therein.

FAILURE TO EXECUTE THIS ACKNOWLEDGMENT MAY MAKE YOUR BID NON-RESPONSIVE.

I, _____, being duly authorized to bind the
(type or print name of individual)

bidder, _____, does hereby certify that I have fully read
(type or print name of company)

and understand this document and that it highlights certain parts of the Contract that will be entered between the parties and that will govern this Project.

Authorized Signature: _____

Title: _____

Date: _____

END OF BIDDER'S ACKNOWLEDGMENT STATEMENT

**DIVISION OF PUBLIC WORKS
FIXED PRICE CONSTRUCTION CONTRACT
BETWEEN OWNER AND CONTRACTOR**

**DPW PROJECT NO. 21-239
Siding and Window Replacement
Pulling Courts
Idaho State University
Pocatello, Idaho**

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**FIXED PRICE CONSTRUCTION CONTRACT
BETWEEN OWNER AND CONTRACTOR**

THIS FIXED PRICE CONSTRUCTION CONTRACT BETWEEN OWNER AND CONTRACTOR (the "Contract") is by and between the State of Idaho, Department of Administration, Division of Public Works ("DPW" or the "Owner") and (insert name of contractor) (the "Contractor") and is for the construction of the project (the "Project") identified as DPW Project No. 21-400, as more fully described in Exhibit A, and incorporated herein by reference. This Contract shall be effective on _____ (day) of _____ (month), 20__ (year), when executed by both parties.

In consideration of the mutual promises, covenants, and agreements stated herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Owner and the Contractor agree:

**ARTICLE 1
CONTRACT DOCUMENTS**

1.1 The Contract Documents consist of this Contract, the drawings and specifications for the Project (the "Drawings and Specifications") identified in Exhibit C and any Addenda thereto issued prior to execution of this Contract, written amendments signed by both the Owner and the Contractor, Change Orders signed by both the Owner and the Contractor, Construction Change Directives and any written orders by the Design Professional for minor changes in the Work (the "Contract Documents"). Documents not included or expressly contemplated in this Article 1 do not, and shall not, form any part of the Contract Documents.

1.2 The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations.

**ARTICLE 2
REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR**

In order to induce the Owner to execute this Contract and recognizing that the Owner is relying thereon, the Contractor, by executing this Contract, makes the following express representations to the Owner:

2.1 The Contractor is fully qualified to act as the Contractor for the Project and has, and shall maintain, any and all licenses, permits or other authorizations necessary to act as the Contractor for, and to construct, the Project.

2.2 The Contractor has become familiar with the Project site and the local conditions under which the Project is to be constructed and operated particularly in correlation to the requirements of the Contract.

2.3 The Contractor has received, reviewed, compared, studied and carefully examined all of the documents which make up the Contract Documents, including the Drawings and Specifications, and any Addenda, and has found them in all respects to be complete, accurate, adequate, consistent, coordinated and sufficient for construction. Such review, comparison, study and examination shall be a warranty that the contractor believes that the documents are complete and the Project is buildable as described except as reported.

2.4 The Contractor warrants that the Contract Time is a reasonable period for performing the Work.

2.5 The Contractor warrants to the Owner and Design Professional that all labor furnished on this Project shall be competent to perform the tasks undertaken; materials and equipment furnished under the Contract will be new and of high quality unless otherwise required or permitted by the Contract Documents; that the Work will be complete, of high quality and free from defects not inherent in the quality required or permitted; and that the Work will strictly conform to the requirements of the Contract Documents. Any Work not strictly conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse by Owner or its representatives, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality

of materials and equipment. This warranty shall survive the completion of the Contract and final payment to the Contractor.

2.6 Certification Concerning Boycott of Israel. Pursuant to Idaho Code section 67-2346, if payments under the Contract exceed one hundred thousand dollars (\$100,000) and Contractor employs ten or more persons, Contractor certifies that it is not currently engaged in, and will not for the duration of the Contract engage in, a boycott of goods or services from Israel or territories under its control. The terms in this section defined in Idaho Code section 67-2346 shall have the meaning defined therein

ARTICLE 3 INTENT AND INTERPRETATION

With respect to the intent and interpretation of this Contract, the Owner and the Contractor agree as follows:

3.1 This Contract constitutes the entire and exclusive agreement between the parties with reference to the Project, and supersedes any and all prior discussions, communications, representations, understandings, negotiations or agreements. This Contract also supersedes any bid documents.

3.2 The intent of the Contract is to include all items necessary for the proper execution and completion of the Project and anything that may be required, implied or inferred by the documents which make up this Contract, or any one or more of them, shall be provided by the Contractor for the Fixed Price Contract Amount. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all.

3.3 Nothing contained in this Contract shall create, nor be interpreted to create, privity or any other relationship whatsoever between the Owner and any person or entity except the Contractor; provided, however, that the Design Professional is entitled to performance and enforcement of obligations under the Contract intended or necessary to facilitate its duties. Any reference to the Owner, the Contractor or the Design Professional shall be deemed to include authorized representatives.

3.4 When a word, term or phrase is used in this Contract, it shall be interpreted or construed first as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage.

3.5 The words "include," "includes," or "including," as used in this Contract, shall be deemed to be followed by the phrase "without limitation."

3.6 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this Contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this Contract.

3.7 The Contractor shall have a continuing duty to read, examine, review, compare and contrast each of the documents which make up this Contract, shop drawings and other submittals, and shall give timely written notice to the Owner and the Design Professional of any conflict, ambiguity, error or omission which the Contractor may find with respect to these documents before proceeding with the affected Work.

3.8 The express or implied approval by the Owner or the Design Professional of any shop drawings or other submittals shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The Owner has requested that the Design Professional prepare documents for the Project, including the Drawings and Specifications for the Project, which are accurate, adequate, consistent, coordinated and sufficient for construction. **HOWEVER, THE OWNER MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING SUCH DOCUMENTS.** The Contractor again hereby acknowledges and represents that it has received, reviewed and carefully examined such documents; has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction; and that the Contractor has not, does not and will not rely upon any representations or warranties by the Owner concerning such documents, as no such representations or warranties have been or are hereby made.

3.9 In the event of any conflict among any of the documents which make up this Contract, the Design Professional shall interpret the documents, and the interpretation shall be binding on both the Owner and Contractor; provided, however, that this does not change the Owner's right to make decisions regarding Claims in accordance with Article 13 and Article 14. If no interpretation is provided by the Design Professional, the most stringent requirement in the Contract Documents will apply.

ARTICLE 4 OWNERSHIP OF DOCUMENTS

4.1 Unless otherwise agreed by the Design Professional and its consultants, the party that prepared the drawings, specifications and other documents is the author of such with all copyright, common law, statutory and other reserved rights. The Contractor may retain one (1) record set of the Drawings and Specifications and other documents but shall not own or claim any copyright in them.

The Drawings and Specifications and other documents, and any copies, are to be used solely for this Project, and not on any other project, or additions to this Project outside this Contract, without written consent of the Owner, the Design Professional and the Design Professional's consultants; provided, however, that copies may be made of applicable portions as necessary for completion of the Work. Such copies shall include any copyright notice on the Drawings and Specifications and other documents.

Submission to or use by a regulatory body related to this Project is an acceptable use.

ARTICLE 5 CONTRACTOR'S PERFORMANCE

The Contractor shall perform all of the Work required, implied or reasonably inferable from this Contract, including the following:

5.1 Construction of the Project.

5.2 The furnishing of any required surety bonds and insurance.

5.3 The provision or furnishing, and prompt payment therefore, of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, fuel, heat, light, cooling or other utilities required for construction and all necessary permits, including any required elevator permits, required for the construction of the Project. Construction projects for the State of Idaho require a building permit issued by the Division of Building Safety.

5.4 The creation and submission of a detailed and comprehensive set of marked up blue or black-lined record drawings. Said record drawings shall be submitted to and approved by the Design Professional as a condition precedent to final payment to the Contractor.

ARTICLE 6 TIME FOR CONTRACTOR'S PERFORMANCE

6.1 The Contractor shall commence the performance of this Contract in accordance with the "Notice to Proceed" (Exhibit F) issued by the Owner and shall diligently continue its performance to and until final completion of the Project. The Contractor shall accomplish Substantial Completion of the Project on or before the time indicated in Exhibit A. The period of time, including any adjustments made under this Contract, for the Contractor to reach Substantial Completion is the "Contract Time."

6.2 The Contractor may be assessed by and be responsible to the Owner for the amount indicated in Exhibit A per day for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth for Substantial Completion. Any sums owed hereunder by the Contractor shall be payable not as a penalty but as liquidated damages, representing an estimate of delay damages likely to be sustained by the Owner estimated at the time of this Contract. When the Owner reasonably believes that Substantial Completion will be inexcusably delayed, the Owner shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the Owner to be adequate to recover liquidated damages applicable to such delays. If

and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the Owner has withheld payment, the Owner shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages. The Owner's right to liquidated damages is not, and shall not be deemed to be, an exclusive remedy for delay and the Owner shall retain all remedies at law or in equity for delay or other breach.

6.3 The term "Substantial Completion," as used herein, shall mean that point at which, as certified in writing by the Design Professional, or if there is no Design Professional, as certified by the Owner, the entire Project is at a level of completion in strict compliance with the Contract Documents, such that the Owner or its designee can enjoy beneficial use or occupancy and can use or operate it in all respects for its intended purpose. If, in the reasonable determination of the Owner, receipt of operation and maintenance manuals or completion of training is necessary for such beneficial use or occupancy, then there shall be no Substantial Completion until such manuals are provided or such training is completed. Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete, or accepted as substantially complete, and such partial use or occupancy shall not be evidence of Substantial Completion. The Project shall not be deemed accepted until it is finally complete.

6.4 Any request by the Contractor for an extension of the Contract Time must be made in accordance with, and is subject to, Article 13 and Article 14 related to Claims.

6.5 The Owner shall have no liability of any kind to the Contractor if a schedule or other document submitted by the Contractor shows an intention to complete the Work prior to the scheduled completion date and for any reason other than Owner caused delay, the Contractor is not able to achieve such early completion.

ARTICLE 7 FIXED PRICE AND CONTRACT PAYMENTS

7.1 The Owner shall pay, and the Contractor shall accept, as full and complete payment for the Contractor's timely performance of its obligations hereunder, the Fixed Price Contract Amount indicated in Exhibit A. The Fixed Price Contract Amount shall not be modified except as provided in this Contract.

7.2 Prior to approval of the contract, the Contractor shall prepare and present to the Owner and the Design Professional the Contractor's Schedule of Values apportioning the Fixed Price Contract Amount among the different elements of the Project for purposes of periodic and final payment. The Contractor's Schedule of Values shall be presented in the Owner's web-based construction management software. The Contractor shall not imbalance its Schedule of Values nor artificially inflate any element thereof. The violation of this provision by the Contractor shall constitute a material breach of this Contract. The Contractor's Schedule of Values will be utilized for the Contractor's requests for payment but shall only be so utilized after it has been approved in writing by the Design Professional.

7.3 The Owner shall pay the Fixed Price Contract Amount to the Contractor in accordance with the procedures set forth in this Article. The Contractor shall submit a Contractor's Request for Payment, on or before the day of each month indicated in Exhibit A or otherwise agreed to, after commencement of performance, but no more frequently than once monthly. Said payment request shall be made in the Owner's web-based construction management software, and shall include whatever supporting information as may be required by the Design Professional, the Owner or both. Therein, the Contractor may request payment for one hundred percent (100%) of the Work satisfactorily completed to the date of the Contractor's Request for Payment, less five percent (5%) retainage, based on the Fixed Price Contract Amount allocated on the Schedule of Values. The Contractor's Request for Payment may include only: properly provided labor, materials or equipment properly incorporated into the Project, and time and materials or equipment necessary for the Project or that will be incorporated into the Project and are properly stored at the Project site (or elsewhere if off-site storage is approved in writing by the Owner). The Contractor's Request for Payment must exclude the total amount of previous payments received from the Owner. Any payment on account of stored materials or equipment will be subject to the Contractor providing written proof that the Owner has title to such materials or equipment and that they are fully insured against loss or damage. Each such Contractor's Request for Payment shall be signed by the Contractor and its submission shall constitute the Contractor's affirmative representation that the quantity of Work has reached the level for which payment is requested; that the Work has been properly installed or performed in strict compliance with the Contract; that all Work for which the Owner has previously paid is free and clear of any lien, claim or other encumbrance of any person whatsoever; and that the Contractor knows of no reason why payment should not be made as requested. As a condition precedent to payment, the Contractor shall, if required by the Owner, furnish to the Owner properly executed waivers or releases, in a form acceptable to the Owner, from all subcontractors, materialmen, suppliers or others having any claims or alleged

claims, wherein said subcontractors, materialmen, suppliers or others shall acknowledge receipt of all sums due pursuant to all prior Contractor's Requests for Payment, and waive and relinquish any rights or other claims relating to the Project or Project site. The submission by the Contractor of the Contractor's Request for Payment also constitutes the Contractor's affirmative representation that, upon payment of the Contractor's Request for Payment submitted, title to all Work included in such payment shall be vested in the Owner.

Thereafter, the Design Professional shall review the Contractor's Request for Payment and may also review the Work at the Project site or elsewhere to determine whether the quantity and quality of the Work are as represented in the Contractor's Request for Payment and as required by this Contract. The Design Professional shall approve in writing the amount which, in the opinion of the Design Professional, is properly owing to the Contractor and such approval is required before the Owner shall have any payment obligation. The Design Professional may withhold such approval, in whole or in part, as necessary to protect the Owner if it reasonably believes that the quantity or quality of the Work is not as represented in the Contractor's Request for Payment or is not in strict conformance to the Contract Documents.

7.4 The Owner shall make payment to the Contractor no more than twenty-one (21) days following receipt by the Owner of the Design Professional's written approval of each Contractor's Request for Payment. The amount of each such payment shall be the amount approved for payment by the Design Professional less such amounts, if any, otherwise owing by the Contractor to the Owner or which the Owner shall have the right to withhold as authorized by this Contract. The Design Professional's approval of the Contractor's Request for Payment shall not preclude the Owner from the exercise of any of its rights it may have in this Contract, at law or in equity, as set forth in Paragraph 7.8 hereinafter.

7.5 Off-site storage will not be approved at locations more than thirty (30) miles from the Project site or outside the State of Idaho and any payment for any off-site storage is subject to the following:

- .1** The Contractor must provide at least thirty (30) days' advance written notice of its request to store off-site. Such notice must include a description of the type, quantities, locations and values of materials involved for the next billing cycle. All invoices must indicate the type, quantities and value of materials or equipment for which payment is requested;
- .2** All materials stored off-site must be segregated and clearly marked with the DPW Project number and as being the "Property of the State of Idaho;"
- .3** The Design Professional and/or the Owner's Field Representative must have unrestricted access to the stored materials during all business hours and may physically inventory all invoiced materials and equipment and may physically inspect the storage conditions;
- .4** The Contractor must provide written Consent of Surety to off-site storage of materials and equipment and to payment for such materials and equipment prior to incorporation in the Work. Consent must be from the Surety. Consent of local broker or agent is not acceptable;
- .5** The Contractor must maintain and must provide to the Design Professional, upon request, a current log of stored materials and equipment, which reflects when materials and equipment are used or added; and
- .6** The Contractor must obtain and maintain all risk property insurance at replacement cost, with the State of Idaho listed as loss payee on all materials and equipment stored off-site and in transit.

7.6 When payment is received from the Owner, the Contractor shall immediately pay all subcontractors, materialmen, laborer and suppliers the amounts they are due for the Work covered by such payment. The Contractor shall not withhold from a subcontractor or supplier more than the percentage withheld from a payment certificate for the subcontractor's or supplier's portion of the Work. In the event the Owner becomes informed that the Contractor has not paid a subcontractor, materialmen, laborer or supplier as provided herein, the Owner shall have the right, but not the duty, to issue future checks and payment to the Contractor of amounts otherwise due hereunder naming the Contractor and any such subcontractor, materialmen, laborer or supplier as joint payees. Such joint check procedure, if employed by the Owner, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the Owner to repeat the procedure in the future.

7.7 Payment to the Contractor, utilization of the Project for any purpose by the Owner, or any other act or omission by the Owner shall not be interpreted or construed as an acceptance of any Work of the Contractor not strictly in compliance with this Contract.

7.8 The Owner shall have and be entitled to the right to refuse to make any payment, including by reducing payment under any Contractor's Request for Payment, and, if necessary, may demand the return of a portion or all of an amount previously paid to the Contractor for reasons that include the following:

.1 The quality of the Contractor's work, in whole or part, is not in strict accordance with the requirements of this Contract or identified defective work, including punch list work, is not remedied as required by the Contract Documents;

.2 The quantity of the Contractor's work, in whole or in part, is not as represented in the Contractor's Request for Payment or otherwise;

.3 The Contractor's rate of progress is such that, in the Owner's opinion, Substantial Completion or final completion, or both, may be inexcusably delayed or that the Owner will incur additional costs or expense related to repeated Substantial Completion or final completion inspections through no fault of the Owner;

.4 The Owner reasonably believes that the Contractor has failed to use Contract funds, previously paid the Contractor by the Owner, to pay Contractor's project-related obligations, including subcontractors, laborers and material and equipment suppliers;

.5 There are claims made or it seems reasonably likely that claims will be made, against the Owner;

.6 The Contractor has caused a loss or damage to the Owner, the Design Professional or another contractor;

.7 The Owner reasonably believes that the Project cannot be completed for the unpaid balance of the Fixed Price Contract Amount or the Owner reasonably believes that the Project cannot be completed within the Contract Time and that the unpaid balance of the Fixed Price Contract Amount would be inadequate to cover the cost of actual or liquidated damages for the anticipated delay;

.8 The Contractor fails or refuses to perform any of its obligations to the Owner; or

.9 The Contractor fails to pay taxes as required by Title 63, Chapter 15, Idaho Code.

In the event that the Owner makes written demand upon the Contractor for amounts previously paid by the Owner as contemplated in Paragraph 7.8, the Contractor shall promptly comply with such demand.

7.9 If the Owner, without cause, fails to pay the Contractor any amounts due and payable thirty (30) days after those amounts are due pursuant to Paragraph 7.4, the Contractor shall have the right to cease the Work until receipt of proper payment. Contractor must first provide written notice to the Owner of the Contractor's intent to cease the Work ten (10) days prior to stopping the Work under this Paragraph. If any amounts remain unpaid after fifty-one (51) days after the Design Professional approves the Contractor's Request for Payment under Paragraph 7.4, interest at the rate of four percent (4%) per annum shall accrue on those unpaid amounts.

7.10 When Contractor considers Substantial Completion has been achieved, the Contractor shall notify the Owner and the Design Professional in writing and shall furnish to the Design Professional a listing of those matters yet to be finished. The Design Professional will thereupon conduct an inspection to confirm that the Work is, in fact, substantially complete. Upon its confirmation that the Contractor's work is substantially complete, the Design Professional will so notify the Owner and Contractor in writing and will therein set forth the date of Substantial Completion. The Owner and the Contractor must accept the date of Substantial Completion in writing. Guarantees and warranties required by this Contract shall commence on the date of Substantial Completion. At the Contractor's Request for Payment following Substantial Completion, the Owner shall pay the Contractor an amount sufficient to increase total payments to the Contractor to ninety-five percent (95%) of the Fixed Price Contract Amount, less any liquidated damages, less the reasonable costs as determined by the Design Professional for completing all incomplete work, correcting and bringing into conformance all defective and nonconforming work, and handling any outstanding or potential claims. If the Design Professional determines that the Contractor has made or is making satisfactory progress on any uncompleted portions of the Work, the Owner may, at its discretion, release a portion of

the retainage to the Contractor prior to the actual final completion of the conditions set forth in Paragraph 7.13. It is the intent of the parties that the Project will be accepted only in total (at Substantial Completion and final completion) and not in phases unless provided for in Exhibit A. Any acceptance other than in total shall require written agreement of Owner and Design Professional.

7.11 When Contractor considers the Project is at final completion, it shall notify the Owner and the Design Professional thereof in writing. Thereupon, the Design Professional will perform a final inspection of the Project. If the Design Professional confirms that the Project is complete in full accordance with the Contract Documents and that the Contractor has performed all of its obligations to the Owner, the Design Professional will furnish a final approval for payment to the Owner certifying to the Owner that the Project is complete and the Contractor is entitled to the remainder of the unpaid Fixed Price Contract Amount, less any amount withheld pursuant to this Contract.

7.12 If the Contractor fails to achieve final completion within a reasonable number of days as established by the Design Professional from the date of Substantial Completion, the Contractor may be assessed and be responsible to the Owner for fifty percent (50%) of the daily amount of liquidated damages as established pursuant to Paragraph 6.2 and Exhibit A, per day for each and every calendar day of unexcused delay in achieving final completion beyond the date established for final completion of the Work. Any sums due and payable hereunder by the Contractor shall be payable not as a penalty but as liquidated damages representing an estimate of delay damages likely to be sustained by the Owner, estimated at or before the time of executing this Contract. When the Owner reasonably believes that final completion will be inexcusably delayed, the Owner may withhold from any amounts otherwise due the Contractor an amount then believed by the Owner to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving final completion, or any part thereof, for which the Owner has withheld payment, the Owner shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages. The Owner's right to liquidated damages is not, and shall not be deemed to be, an exclusive remedy for delay and the Owner shall retain all remedies at law or in equity for delay or other breach.

7.13 As a condition precedent to final payment, the Contractor must furnish the Owner, in the form and manner required by Owner, and with a copy to the Design Professional of the following:

- .1 An affidavit that all of the Contractor's obligations to subcontractors, laborers, equipment or material suppliers or other third parties in connection with the Project have been paid or otherwise satisfied;
- .2 A release by the Contractor of all Claims it has or might have against the Owner or the Owner's property (DPW's form, Exhibit H);
- .3 Contractor's Affidavit of Debts and Claims (AIA Document G706);
- .4 Consent of Surety to final payment (AIA Document G707);
- .5 Confirmation of all required training, product warranties, operating manuals, instruction manuals and other record documents, drawings and things customarily required of the Contractor; and
- .6 A Public Works Contract Tax Release issued by the Idaho Tax Commission (See "Request for Tax Release" form, Exhibit G, to be submitted by Contractor to the Idaho Tax Commission).

7.14 The Owner shall, subject to its rights set forth in this Contract, make final payment of all sums due the Contractor within thirty (30) days of the Design Professional's execution of a final approval for payment and receipt of documentation required by Paragraph 7.13, whichever is received later.

ARTICLE 8 INFORMATION AND MATERIAL SUPPLIED BY THE OWNER

8.1 The Administrator of DPW or his designee shall be the sole representative of the State of Idaho. The Design Professional shall have authority to bind Owner only as specifically set forth in this Contract.

8.2 The Owner will assign a Project Manager and a Field Representative to represent the Owner, identified in Exhibit B. The Owner's Field Representative's duties, responsibilities and limitations of authority are in accordance with DPW's policies and procedures.

8.3 The Owner shall furnish to the Contractor, prior to the execution of this Contract, any and all written and tangible material in its possession concerning conditions below ground at the site of the Project. Such written and tangible material is furnished to the Contractor only in order to make complete disclosure of such material as being in the possession of the Owner and for no other purpose. By furnishing such material, the Owner does not represent, warrant or guarantee its accuracy, either in whole in part, implicitly or explicitly.

8.4 The Owner will secure and pay for all required easements, the plan check fee required by the Division of Building Safety, conditional use permits and any other permits and fees specifically indicated in the Contract Documents to be secured and paid for by the Owner.

8.5 The Owner will provide the Contractor one (1) copy of this complete Contract and the number of sets of Drawings and Project Manuals (including Specifications) as indicated in Exhibit A. The Contractor may purchase additional copies, at its expense, from the Design Professional.

ARTICLE 9 STOP WORK ORDER

9.1 In the event the Contractor fails or refuses to perform the Work as required or fails or refuses to correct nonconforming Work, the Owner may instruct the Contractor to stop Work in whole or in part. Upon receipt of such instruction, the Contractor shall immediately stop as instructed by the Owner and shall not proceed further until the cause for the Owner's instructions has been corrected, no longer exists or the Owner instructs that the Work may resume. In the event the Owner issues such instructions to stop, and in the further event that the Contractor fails and refuses within seven (7) days of receipt of same to provide adequate assurance to the Owner that the cause of such instructions will be eliminated or corrected, then the Owner shall have the right, but not the obligation, to carry out the Work with its own forces or with the forces of another contractor, and the Contractor shall be fully responsible and liable for the costs of performing such Work by the Owner. Without limiting what else might constitute nonconforming Work, the existence of a gross safety violation or other situation or condition that creates, or could imminently create, a threat of serious harm to persons or property, shall constitute nonconforming Work and any order to stop the Work issued for such reason shall not be considered an interference with the Contractor's performance of the Work or its means and methods. The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the Owner may have against the Contractor.

9.2 Any order to stop the Work issued pursuant to Paragraph 9.1 shall not be used to justify any Claim by the Contractor for additional time or money.

ARTICLE 10 DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CONTRACTOR

In addition to any and all other duties, obligations and responsibilities of the Contractor set forth in this Contract, the Contractor shall have and perform the following duties, obligations and responsibilities to the Owner:

10.1 The Contractor's continuing duties set forth in Paragraph 3.7 are by reference hereby incorporated in this Paragraph 10.1. The Contractor shall not perform Work without adequate plans and specifications or, as appropriate, approved shop drawings or other submittals. If the Contractor performs Work knowing or believing it involves an error, inconsistency or omission in the Contract without first providing written notice to the Design Professional and Owner, the Contractor shall be responsible for such Work and shall pay the cost of correcting same.

10.2 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing Work. Errors, inconsistencies or omissions discovered shall be reported to the Design Professional, the Owner and the Owner's Field Representative immediately. Such examination, review and comparison shall be a warranty that the Contract Documents are complete and the Project is buildable as described except as reported. Reported errors, inconsistencies or omissions will constitute a request for an interpretation by the Design Professional and may constitute a claim pursuant to Article 13 hereof where appropriate.

10.3 The Contractor shall ensure that all Work shall strictly conform to the requirements of this Contract.

10.4 The Work shall be strictly supervised, the Contractor bearing full responsibility for any and all acts or omissions of those engaged in the Work on behalf of the Contractor.

10.5 All labor furnished on this Project shall be competent to perform the tasks undertaken; materials and equipment furnished under the Contract will be new and of high quality unless otherwise required or permitted by the Contract Documents; the Work will be complete, of high quality and free from defects not inherent in the quality required or permitted; and the Work will strictly conform to the requirements of the Contract Documents. Any Work not strictly conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective.

10.6 Except as provided in Paragraph 8.4, the Contractor shall secure or provide and pay for all licenses, permits required by the Idaho Division of Building Safety, governmental approvals and inspections, connections for outside services for the use of municipal or private property for storage of materials, parking, utility services, temporary obstructions, enclosures or opening and patching of streets, and for all other facilities and services necessary for proper execution and completion of the Project.

10.7 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

10.8 The Contractor shall employ and maintain at the Project site only competent supervisory personnel. Key supervisory personnel assigned by the Contractor to this Project are as listed in Exhibit B.

10.9 The Contractor shall employ a competent superintendent and necessary assistants, as needed, to oversee execution of the Work. The superintendent shall be in attendance at the Project site during the progress of the Work. The superintendent and any project manager, if the Contractor utilizes a project manager, shall be reviewed and must be approved by the Design Professional and Owner, and neither shall be changed except with the consent of the Design Professional and Owner, unless the superintendent and/or project manager cease to be employed by the Contractor. Under this circumstance, any new superintendent or new project manager must be satisfactory to the Design Professional and Owner. Such approval shall not be unreasonably withheld. The superintendent and any project manager shall represent the Contractor and all communications given to the superintendent or project manager are deemed given to the Contractor.

10.10 So long as the individuals named above remain actively employed or retained by the Contractor, they shall perform the functions indicated next to their names unless the Owner agrees to the contrary in writing. In the event one or more individuals not listed in Paragraph 10.9 subsequently assumes one or more of those functions listed in Paragraph 10.9, the Contractor shall be bound by the provisions of this paragraph as though such individuals had been listed in Paragraph 10.9.

10.11 The Contractor shall provide to the Owner and the Design Professional a milestone schedule for completing the Work within the Contract Time. Such schedule shall be in a form specified in Division 1 of the Specifications and be acceptable to the Owner and to the Design Professional. The schedule must be submitted to and accepted by the Design Professional prior to the first request for payment unless required earlier by Division 1 of the Specifications. The Contractor's milestone schedule must be updated as required by the Design Professional and/or the Owner to reflect conditions encountered and shall apply to the total Project. The Contractor's revisions to the schedule shall not constitute a waiver of the requirement to complete the Project in the time allowed by the Contract, unless additional time for performance has been allowed pursuant to a Change Order. Any changes in milestone begin or end dates must be furnished to the Owner and the Design Professional. Strict compliance with the requirements of this Paragraph shall be a condition precedent to the payment to the Contractor and failure by the Contractor to strictly comply with said requirements shall constitute a material breach of this Contract.

10.12 Unless otherwise provided in the Construction Documents, on all projects where the Fixed Price Contract Amount is over \$1,000,000, the Contractor shall schedule and perform the Work in accordance with a Critical Path Method ("CPM") to indicate the rate of progress and practical order of the Project. The purpose of this scheduling requirement is to assure adequate planning, coordination and execution of the Work. The schedule shall indicate the dates for starting and completing major work activities, project events, major equipment, material and equipment submittals and delivery of major items. Project activities having critical time restraints on action, required by the Owner, shall be shown as scheduled milestones. The Contractor's schedule shall demonstrate the order, interdependence and sequence of activities. Critical paths shall be highlighted or distinguished. The schedule shall

include all the dates specified in the Contract for Substantial Completion and final completion of the Work. The time limit set forth in the Contract for Substantial Completion and final completion must govern; the schedule must be adjusted to meet these dates. Schedule float shall belong to the Project. The Contractor shall submit to the Owner and Design Professional a CPM schedule within three (3) weeks after award of the Contract and maintain such schedule on a current basis in accordance with the Contract Documents.

10.13 Once a month, or at intervals as required by the Design Professional, the Contractor shall advise the Owner and the Design Professional of the status of the Work (in duplicate) on the current milestone schedule. If any project milestone dates are not met on schedule, the Contractor shall immediately advise the Owner and Design Professional in writing of the proposed action to bring the Work on schedule. The Contractor shall also submit a detailed short term schedule, as required by Division 1 of the Specifications, each month. This short term schedule shall include a description of current and anticipated problem areas, delaying factors and their impact, and explanation of corrective action taken or proposed. If the Work is behind schedule, the Contractor shall indicate what measures it will take to put the Work back on schedule.

10.14 If the Work is not progressing through no fault of the Owner or the Design Professional, as shown on the milestone schedule, as determined by the Design Professional, and the Owner and the Design Professional do not believe the Contractor's proposed action to bring the Work on schedule is adequate, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. In such event, the Owner, at its discretion, may require the Contractor to work such additional time over regular hours, including Saturdays, Sundays and holidays, without additional cost to the Owner to bring the Work on schedule.

10.15 The Contractor shall keep an updated copy of the Drawings and Project Manual (including Specifications) and Addenda at the site. Additionally, the Contractor shall keep a current submittal schedule and a copy of approved shop drawings and other submittals. All of these items shall be available to the Owner and the Design Professional at all regular business hours. Upon final completion of the Work, all of these items must be updated by the Contractor and provided to the Design Professional and shall become the property of the Owner.

10.16 The Contractor shall carefully review and inspect for compliance with the Contract Documents, the shop drawings and other submittals (including product data and samples) required by the Contract Documents and shall submit to the Design Professional only submittals approved in accordance with this section. Such review and submittal shall be done promptly and in a sequence that will not delay its Work under this Contract or the activities of the Owner or of separate contractors. Shop drawings and other submittals from the Contractor do not constitute a part of the Contract. The Contractor shall not do any work requiring shop drawings or other submittals unless the Design Professional has verified compliance in writing. All Work requiring verified shop drawings or other submittals shall be done in strict compliance with such approved documents. However, verification of compliance by the Design Professional shall not be evidence that Work installed pursuant thereto conforms with the requirements of this Contract. The Design Professional shall have no duty to review submittals that are not Contractor approved, partial submittals or incomplete submittals. The Contractor shall maintain a submittal log which shall include, at a minimum, the date of each submittal, the date of any re-submittal, the date of any approval or rejection and the reason for any rejection.

10.17 The Contractor shall maintain the Project site in a reasonably clean condition during performance of the Work. Upon final completion, the Contractor shall thoroughly clean the Project site of all debris, trash and excess materials or equipment.

10.18 At all times relevant to this Contract, the Owner and the Design Professional shall have a right to enter the Project site and the Contractor shall allow the Owner and/or the Design Professional to review or inspect the work without formality or other procedure.

10.19 The presence or duties of the Design Professional's or the Owner's personnel or representatives at the construction site, does not make any of them responsible for those duties that belong to the Contractor or other entities and does not relieve the Contractor or any other entities of their obligations, duties and responsibilities, including any obligation or requirement to have or to implement any health or safety plans or precautions. Except as provided in Paragraph 10.9, Design Professional's and Owner's personnel have no authority to exercise any control over any Contractor or other entities or their employees in connection with their work or any health or safety precautions and have no duty for inspecting, noting, observing, correcting or reporting on health or safety deficiencies of the Contractor or other entities or any other persons at the site except their own personnel. The presence of Design

Professional's or Owner's personnel at a construction site is for the purpose of providing to Owner a greater degree of confidence that the completed Work will conform to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by the Contractor. For this Contract only, construction sites include places of manufacture for materials incorporated into the construction Work and Contractor includes manufacturers of materials incorporated into the construction Work.

ARTICLE 11 INDEMNITY

11.1 The Contractor shall defend, indemnify and hold harmless the Owner, Design Professional, and their employees, officers and agents harmless from any and all claims, liabilities, damages, losses, costs and expenses of every type whatsoever, including attorney fees and expenses, arising out of or resulting from the Contractor's work, acts or omissions under or related to the Contract Documents, to the extent caused by the Contractor, or anyone for whose acts the Contractor may be liable, regardless of whether such liability, claim, damage, loss, cost or expense is caused in part by the Owner.

11.2 The limits of any insurance of the Contractor shall not be, and shall not be deemed to be, a limitation of the Contractor's defense and indemnity obligations contained in this Article.

11.3 In claims against any person or entity indemnified under this Article by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under this Article shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 12 THE DESIGN PROFESSIONAL

The Design Professional for this Project is identified in Exhibit B, incorporated herein by reference, along with any authorized representatives and any limitations of responsibility. For the purpose of this Contract, the "Design Professional" means the properly licensed architect, properly registered professional engineer or other professional licensed in the State of Idaho who prepared the Drawings and Specifications for this Project. If the employment of the Design Professional is terminated, the Owner may retain a replacement professional and the role of the replacement professional shall be the same as the role of the Design Professional. Unless otherwise directed by the Owner in writing, the Design Professional will perform those duties and discharge those responsibilities allocated to the Design Professional in this Contract. The duties, obligations and responsibilities of the Design Professional shall be for contract administration and include the following:

12.1 Unless otherwise directed by the Owner in writing, the Design Professional shall not act as the Owner's agent.

12.2 Unless otherwise directed by the Owner in writing, the Owner and the Contractor shall communicate with each other through the Design Professional.

12.3 When requested by the Owner or Contractor in writing, the Design Professional shall within seven (7) days render written interpretations necessary for the proper execution or progress of the Work or shall provide a written explanation as to why more time is needed and provide a date by which it will be provided.

12.4 The Design Professional shall draft proposed change authorization(s).

12.5 The Design Professional shall review and verify compliance or respond otherwise as necessary concerning shop drawings or other submittals received from the Contractor.

12.6 The Design Professional shall be authorized to refuse to accept Work that is defective or otherwise fails to comply with the requirements of this Contract. If the Design Professional deems it appropriate, the Design Professional may, with the Owner's consent, require extra inspections or testing of the Work for compliance with the requirements of this Contract.

12.7 The Design Professional shall review the Contractor's Request for Payment and shall verify in writing those amounts which, in the opinion of the Design Professional, are properly owing to the Contractor as provided in this Contract.

12.8 The Design Professional shall, upon written request from the Contractor, perform Substantial Completion and final completion inspections contemplated by Article 6.

12.9 The Design Professional may require the Contractor to make changes which do not involve a change in the Fixed Price Contract Amount or in the Contract Time consistent with the intent of this Contract. Such changes shall be given to the Contractor in writing under signature of the Design Professional, with a copy to the Owner, and may be in the form of a supplemental instruction.

12.10 The Design Professional shall review and evaluate Claims and take other actions related to Claims in accordance with Articles 13 and 14.

12.11 The duties, obligations and responsibilities of the Contractor under this Contract shall in no manner whatsoever be changed, altered, discharged, released or satisfied by any duty, obligation or responsibility of the Design Professional. The Contractor is not a third-party beneficiary of any Contract by and between the Owner and the Design Professional. It is expressly acknowledged and agreed that the duties of the Contractor to the Owner are independent of, and are not diminished by, any duties of the Design Professional to the Owner.

ARTICLE 13 CLAIMS

13.1 For purposes of this Contract, a "Claim" means a demand by the Contractor to the Owner, or by the Owner to the Contractor, for a change in the Fixed Price Contract Amount, an extension of the Contract Time, an adjustment to or interpretation of the Contract terms, or other relief with respect to the terms of the Contract, which demand the Contractor or Owner asserts is required or allowed under the Contract Documents and which the Contractor and the Owner have previously discussed and failed to agree upon.

13.2 For the Claim to be considered, it must meet the following requirements:

- .1 The Claim must be in writing;
- .2 The Claim by the Contractor must be signed by an authorized representative of the Contractor, and the Claim by the Owner must be signed by an authorized representative of the Owner;
- .3 The Claim by the Contractor must be provided to the Owner and to the Design Professional and the Claim by the Owner must be provided to the Contractor and to the Design Professional;
- .4 The Claim must be made no later than ten (10) days after the event or first appearance of the circumstance giving rise to the Claim;
- .5 The Claim must describe in detail all known facts and circumstances that the Contractor or Owner asserts support the Claim;
- .6 The Claim must refer to the provision(s) of the Contract Documents that the Contractor or Owner asserts support the Claim;
- .7 The Contractor or Owner must provide all documentation or other information to substantiate the Claim; and
- .8 The Contractor or Owner must continue its performance under this Contract pending the resolution of any Claim; provided, however, that the Contractor shall not perform any additional or changed work not otherwise authorized in accordance with the Contract Documents.

13.3 The failure by the Contractor to meet any of the requirements of Paragraph 13.2 shall constitute a complete waiver by the Contractor of any rights arising from or related to the Claim. Similarly, the failure by the Owner to meet any of the requirements of Paragraph 13.2 shall constitute a complete waiver by the Owner of any rights arising from or related to the Claim.

13.4 If the Claim is made based on concealed or unknown site conditions, the following shall apply in addition to all other provisions applicable to the Claim:

.1 The condition must have been previously concealed and unknown or of a type not ordinarily encountered in the general geographic location of the Project and must not have been reasonably susceptible to discovery; and

.2 The Contractor shall notify the Design Professional and the Owner of the condition and shall not disturb the condition until the Design Professional and Owner have observed it or have waived in writing the right to observe it.

13.5 If the Claim by the Contractor is for an increase in the Fixed Price Contract Amount, the following shall apply in addition to all other provisions applicable to the Claim:

.1 Any increase in the Fixed Price Contract Amount shall be strictly limited to the direct costs incurred by the Contractor and shall not include any other costs, indirect or other, including any costs for or related to lost productivity, profit, home office overhead and any other overhead, legal fees, claim preparation, any matter previously resolved by a change order, equipment costs, costs related to the services of a project manager unless the project manager was required full time by the Owner or the Contract Documents, any costs associated with the failure to complete the Work early or in advance of the date required by the Contract Documents, it being specifically agreed to by the parties that there is no intention to have the Eichleay or other similar formula applicable to this Contract nor shall this Contract be deemed to be subject to any such formula; and

.2 The Owner shall have no liability for, and the Fixed Price Contract Amount shall not be increased related to, any claims of third parties, including subcontractors, unless and until the liability of the Contractor for such has been established in a court of competent jurisdiction and any such liability of the Owner shall be limited in the same manner as described in subparagraph 13.5.1.

13.6 If the Claim by the Owner is for a change in the Fixed Price Contract Amount, all other applicable provisions to the Claim apply.

13.7 If the Claim by the Contractor is for an extension of the Contract Time, the following shall apply in addition to all other provisions applicable to the Claim:

.1 The Contractor has been delayed in its performance by an act or omission of the Owner and through no fault of the Contractor;

.2 The Contractor has been delayed in its performance by unusually severe weather that could not reasonably have been anticipated or by another event not within its reasonable control;

.3 At the time it occurs or during its occurrence, the delay will preclude completion of the Project in the time required by the Contract Documents; and

.4 Any extension of the Contract Time shall be the Contractor's sole and exclusive remedy for any delay except a delay caused by the active interference of the Owner with the Contractor's performance which active interference continues after written notice to the Owner. The Owner's exercise of any of its rights or remedies under this Contract, including ordering changes in the Work, directing suspension, rescheduling or correction of the Work, do not constitute active interference.

13.8 If a Claim is made based on an error, inconsistency or omission in the Contract that was reasonably susceptible to discovery by the Contractor and was not reported in accordance with Paragraph 2.3, that Claim shall be denied.

ARTICLE 14
RESOLUTION OF CLAIMS

14.1 All Claims made in accordance with Article 13 shall be reviewed and evaluated by the Design Professional. If the Claim is not made in strict accordance with Article 13, it shall be rejected as waived. Any failure by the Design Professional to reject the Claim for failure to meet the requirements of Article 13 is not binding on the Owner and the Owner may reject the Claim for such failure.

14.2 No later than seven (7) days from receipt of the Claim by the Design Professional, it shall:

- .1** Make a written request to the Contractor or Owner for more data to support the Claim;
- .2** Attempt to facilitate resolution of the Claim through informal negotiations; or
- .3** If the Claim is by the Contractor, make a written recommendation to the Owner, with a copy to the Contractor, that the Owner reject or approve all or part of the Claim and state the reasons for the Design Professional's recommendation. If the Claim is by the Owner, make a written recommendation to the Contractor, with a copy to the Owner, that the Contractor reject or approve all or part of the Claim and state the reasons for the Design Professional's recommendation.

14.3 If the Design Professional requests more data from the Contractor or the Owner under subparagraph 14.2.1, the Contractor or Owner shall respond no later than seven (7) days from receipt of such request, and provide additional data, provide a date certain by which additional data will be provided, or state that it will not provide additional data. Upon receipt of data, if any, in accordance with this section, the Design Professional will complete the evaluation of the Claim. Failure to respond at all or failure to provide data by the date specified in the response to the request shall result in the Claim being evaluated based on the information in the Design Professional's possession.

14.4 In evaluating the Claim, the Design Professional may consult with the Contractor, the Owner or other persons with knowledge or expertise that may assist the Design Professional in its evaluation.

14.5 No later than fourteen (14) days after receipt by the Owner of the Design Professional's recommendation regarding the Contractor's Claim, the Owner shall, in writing, notify the Contractor and the Design Professional of its decision regarding the Claim. No later than fourteen (14) days after receipt by the Contractor of the Design Professional's recommendation regarding the Owner's Claim, the Contractor shall, in writing, notify the Owner and the Design Professional of its decision regarding the Claim.

14.6 The Owner's decision regarding the Contractor's Claim is binding on the Owner and the Contractor but is subject to mediation in accordance with this Contract, and the Contractor's decision regarding the Owner's Claim is binding on the Owner and the Contractor but is subject to mediation in accordance with this Contract.

ARTICLE 15
SUBCONTRACTORS

15.1 A document in the form of Exhibit E shall be completed and submitted upon execution of this Contract and those subcontractors named therein shall match those subcontractors named in the Contractor's bid unless otherwise agreed to in writing by the Owner. Also upon execution of this Contract by the Contractor, the Contractor shall identify to the Owner and the Design Professional, in writing, those parties intended as subcontractors on the Project not otherwise named in Exhibit E. The Owner shall, in writing, state any objections the Owner may have to one or more of such subcontractors. The Contractor shall not enter into a subcontract with an intended subcontractor with reference to whom the Owner objects. All subcontracts shall afford the Contractor rights against the subcontractor which correspond to those rights afforded to the Owner against the Contractor herein, including those rights of Contract Termination as set forth in this Contract. All subcontractors shall, throughout the duration of this Contract, be properly licensed as Idaho Public Works Contractors.

15.2 The Contractor conditionally assigns each of its subcontracts related to the Project to the Owner. All subcontracts between the Contractor and the subcontractors shall obligate the subcontractor to such conditional assignment. Upon a Termination by the Owner for cause under Paragraph 20.1, the Owner may accept such

conditional assignment by written notification to the applicable subcontractor and to the Contractor. Such acceptance is subject to the rights of the Surety, if any, relating to the Contract.

ARTICLE 16 CHANGES IN THE WORK

16.1 General

.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article and elsewhere in the Contract Documents; and

.2 Changes in the Work shall be performed under applicable provisions of the Contract Documents and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

16.2 Change Orders

.1 A "Change Order" is a written instrument prepared by the Design Professional and signed by the Owner, Contractor and Design Professional, stating their agreement upon: a change in the work, any adjustment in the Fixed Price Contract Amount and any adjustment in the Contract Time;

.2 Methods used in determining adjustments to the Fixed Price Contract Amount may include those listed in subparagraph 16.3.4;

.3 The amount allowed for overhead and profit on any Change Order is limited to the amounts indicated in subparagraph 16.3.11;

.4 Any Change Order prepared, including those arising by reason of the parties' mutual agreement or by mediation, shall constitute a final and full settlement of all matters relating to or affected by the change in the Work, including all direct, indirect and consequential costs associated with such change and any and all adjustments to the Fixed Price Contract Amount and Contract Time. In the event a Change Order increases the Fixed Price Contract Amount, the Contractor shall include the Work covered by such Change Order in the Contractor's Request for Payment as if such Work were originally part of the Project and Contract Documents; and

.5 By the execution of a Change Order, the Contractor agrees and acknowledges that it has had sufficient time and opportunity to examine the change in Work which is the subject of the Change Order and that it has undertaken all reasonable efforts to discover and disclose any concealed or unknown conditions which may to any extent affect the Contractor's ability to perform in accordance with the Change Order. Aside from those matters specifically set forth in the Change Order, the Owner shall not be obligated to make any adjustments to either the Fixed Price Contract Amount or Contract Time by reason of any conditions affecting the change in Work addressed by the Change Order, which could have reasonably been discovered or disclosed by the Contractor's examination.

16.3 Construction Change Directive (CCD)

.1 A "Construction Change Directive" is a written order prepared by the Design Professional and signed by the Owner and Design Professional directing a change in the Work prior to agreement on adjustment, if any, in the Fixed Price Contract Amount or Contract Time or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract, consisting of additions, deletions or other revisions, the Fixed Price Contract Amount and Contract Time being adjusted accordingly;

.2 A Construction Change Directive, within limitations, may also be used to incorporate minor changes in the Work agreed to by the Design Professional's representative, the Owner's Field Representative and the Contractor's superintendent or project manager. The limits of these representatives' authority with regard to Construction Change Directives shall be documented in writing by the Design Professional, Owner and Contractor;

- .3** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order;
- .4** If the Construction Change Directive provides for an adjustment to the Fixed Price Contract Amount, the adjustment shall be based on one (1) of the following methods:
- .1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - .2** Unit prices stated in the Contract Documents or subsequently agreed upon;
 - .3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
 - .4** As provided in subparagraph 16.3.7;
- .5** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Design Professional in writing within forty-eight (48) hours of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Fixed Price Contract Amount or Contract Time;
- .6** A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Fixed Price Contract Amount and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be incorporated into a future Change Order;
- .7** If the Contractor does not respond promptly or disagrees with the method for adjustments in the Fixed Price Contract Amount or Contract Time, the method and the adjustment shall be determined by the Design Professional on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Fixed Price Contract Amount, an allowance for overhead and profit in accordance with subparagraph 16.3.11. In such case of an increase in Fixed Price Contract Amount, and also under subparagraph 16.3.4, the Contractor shall keep and present, in such form as the Design Professional may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this subsection shall be limited to the following:
- .1** Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom and workers' compensation insurance;
 - .2** Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
 - .3** Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
 - .4** Costs of permit fees and sales, use or similar taxes related to the Work; and
 - .5** Additional costs of supervision and field office personnel directly attributable to the change;
- .8** The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Fixed Price Contract Amount shall be for the actual net cost of the decrease, confirmed by the Design Professional. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change;
- .9** Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in the Contractor's Request for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs;
- .10** When the Owner and Contractor agree with the determination by the Design Professional concerning the adjustments in the Fixed Price Contract Amount and Contract Time, or otherwise reach agreement upon

the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order; and

.11 For purposes of subparagraphs 16.2.3 and 16.3.7, the allowance for combined overhead, profit, bonds and insurance shall be limited as follows, unless otherwise provided in the Contract Documents:

.1 For changes, the amount allowed for overhead, profit, bonds and insurance for the Contractor and all subcontractors of any tier combined shall not exceed fifteen percent (15%) of direct costs; or

.2 The Contractor will determine the apportionment between the Contractor and its subcontractors of allowable amounts of overhead, profit, bonds and insurance.

16.4 The Design Professional will have authority to order minor changes in the Work not involving adjustment in the Fixed Price Contract Amount or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 17

DISCOVERING AND CORRECTING DEFECTIVE OR INCOMPLETE WORK

17.1 If the Contractor covers, conceals or obscures its Work in violation of this Contract or in violation of a directive or request from the Owner or the Design Professional, such Work shall be uncovered and displayed for the Owner's or Design Professional's inspection upon request and shall be reworked at no cost in time or money to the Owner.

17.2 If any of the Work is covered, concealed or obscured in a manner not addressed by Paragraph 17.1, it shall, if directed by the Owner or the Design Professional, be uncovered and displayed for the Owner's or Design Professional's inspection. If the uncovered Work conforms strictly with this Contract, the costs incurred by the Contractor to uncover and subsequently replace such Work shall be borne by the Owner. Otherwise, such costs shall be borne by the Contractor.

17.3 The Contractor shall, at no cost in time or money to the Owner, promptly correct Work (fabricated, installed or completed) rejected by the Owner or by the Design Professional as defective or that fails to conform to this Contract whether discovered before or after Substantial Completion. Additionally, the Contractor shall reimburse the Owner for all testing, inspections and other expenses incurred as a result thereof.

17.4 In addition to any other warranty obligations in this Contract, the Contractor shall be specifically obligated to correct, upon written direction from the Owner, any and all defective or nonconforming Work for a period of twelve (12) months following Substantial Completion.

17.5 The Owner may, but shall in no event be required to, choose to accept defective or nonconforming Work. In such event, the Fixed Price Contract Amount shall be reduced by the lesser of: (i) the reasonable costs of removing and correcting the defective or nonconforming Work; or (ii) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming Work. If the remaining portion of the unpaid Fixed Price Contract Amount, if any, is insufficient to compensate the Owner for the acceptance of defective or nonconforming Work, the Contractor shall, upon written demand from the Owner, pay the Owner such remaining compensation for accepting defective or nonconforming work.

ARTICLE 18

TERMINATION BY THE CONTRACTOR

18.1 The Contractor may terminate the Contract if the Work is stopped for a period of ninety (90) consecutive days through no act or fault of the Contractor or a subcontractor, sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order by a court or by another public authority having jurisdiction and authority which requires all Work to be stopped; or
- .2 An act of government, such as a declaration of national emergency, which requires all Work to be stopped.

18.2 In such event, the Contractor shall be entitled to recover from the Owner as though the Owner had terminated the Contractor's performance under this Contract pursuant to Paragraph 20.3.

ARTICLE 19 OWNER'S RIGHT TO SUSPEND CONTRACTOR'S PERFORMANCE

19.1 The Owner may, at any time and without cause, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine. If the Owner directs any such suspension, the Contractor must immediately comply with same.

19.2 In the event the Owner directs a suspension of performance under this Article, and such suspension is through no fault of the Contractor, the Fixed Price Contract Amount and Contract Time shall be adjusted for increases in the cost and time caused by such suspension, delay or interruption to cover the Contractor's reasonable costs, actually incurred and paid, of:

- .1 Demobilization and remobilization, including such costs paid to subcontractors;
- .2 Preserving and protecting Work in place;
- .3 Storage of materials or equipment purchased for the Project, including insurance thereon; and
- .4 Performing in a later, or during a longer, time frame than that provided by this Contract.

19.3 The adjustment of the Fixed Price Contract Amount shall include an amount for a reasonable profit. The adjustment of the Fixed Price Contract Amount shall not include any amount not otherwise allowed under this Contract, including any limitations applicable to Claims. The Contractor shall provide supporting documentation related to any increase upon request of the Owner. No adjustment shall be made to the extent:

- .1 That performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 That an equitable adjustment is made or denied under another provision of the Contract.

ARTICLE 20 TERMINATION BY THE OWNER

The Owner may terminate this Contract in accordance with the following terms and conditions:

20.1 If the Contractor does not perform the Work, or any part thereof, in accordance with the Contract Documents, or in a timely manner; does not supply adequate labor, supervisory personnel, or proper equipment or materials; fails to pay subcontractors; fails to timely discharge its obligations for labor, equipment, and materials; proceeds to disobey applicable law; or otherwise breaches this Contract, then the Owner, in addition to any other rights it may have against the Contractor, may terminate the Contract and assume control of the Project site and of all materials and equipment at the site and may complete the Work. In such case, the Contractor shall not be paid further until the Work is complete. Upon such Termination, the Owner may, subject to any superior rights of the Surety, take possession of the site and of all materials, equipment, tools and construction equipment and machinery thereon owned by the Contractor; accept assignment of those subcontracts conditionally assigned under Paragraph 15.2; and finish the Work by whatever reasonable method the Owner may deem expedient.

20.2 When the Owner terminates the Contract for cause as provided in Paragraph 20.1, the Contractor shall not be entitled to receive further payment until the Work is finished and shall only be entitled to payment for Work satisfactorily performed by the Contractor in accordance with the Contract Documents. If the costs of finishing the Work, including compensation for the Design Professional's services and expenses made necessary thereby, exceed

the unpaid balance, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. In the event the employment of the Contractor is terminated by the Owner for cause pursuant to Paragraph 20.1 and it is subsequently determined by a court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination under Paragraph 20.3 and the provisions of Paragraph 20.3 shall apply.

20.3 The Owner may, at any time and for any reason, terminate this Contract. The Owner shall give no less than seven (7) days' written notice of such Termination to the Contractor specifying when termination becomes effective. The Contractor shall incur no further obligations in connection with the Work and the Contractor shall stop Work when such Termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The Owner may direct the Contractor to assign the Contractor's right, title and interest under termination orders or subcontracts to the Owner or its designee. The Contractor shall transfer title and deliver to the Owner such completed or partially completed Work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has. When terminated pursuant to this section, the following shall apply:

.1 The Contractor shall submit a Termination Claim to the Owner and the Design Professional specifying the amounts claimed due because of the Termination, together with costs, pricing or other supporting data required by the Owner or the Design Professional. Failure by the Contractor to file a Termination Claim within ninety (90) days from the effective date of termination shall be deemed a complete waiver by the Contractor of any right to any payment;

.2 Before or after receipt of the Termination Claim, the Owner and the Contractor may agree to the compensation, if any, due to the Contractor hereunder; and

.3 If the Contractor has filed the Termination Claim but the Contractor and the Owner do not agree on an amount due to the Contractor, the Owner shall pay the Contractor the following amounts:

.1 Unpaid Contract prices for labor, materials, equipment and other services provided or perfected prior to termination and acceptable to or accepted by the Owner;

.2 Reasonable costs incurred in preparing to perform the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for direct job-site overhead and profit related to such preparation (such profit shall not include anticipated profit or consequential damages); provided, however, that if it appears that the Contractor would have not profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated loss, if any; and

.3 Reasonable costs of settling and paying claims arising out of the Termination of subcontracts or orders pursuant to this Paragraph 20.3.

20.4 Costs described in subparagraphs 20.3.3.2 or 20.3.3.3 above shall not include amounts paid in accordance with other provisions hereof. In no event shall the total sum to be paid the Contractor under subparagraph 20.3.3 exceed the total Fixed Price Contract Amount, as properly adjusted, reduced by the amount of payments previously or otherwise made and by any other deductions permitted under this Contract and shall in no event include duplication of payment.

ARTICLE 21

CONTRACTOR'S LIABILITY INSURANCE

21.1 The Contractor, subcontractor and sub-subcontractor shall purchase and maintain in full force and effect from a company or companies lawfully authorized to do business in the State of Idaho such insurance as will protect the Contractor, subcontractor and sub-subcontractor from claims set forth below which may arise out of or result from the Contractor's or subcontractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' or workmen's compensation, disability benefits and other similar employee benefit acts which are applicable to the work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage which are sustained: (i) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor; or (ii) by another person;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting there from;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Article

21.2 The insurance required by Paragraph 21.1 above shall be written for not less than limits of liability specified in this Contract or as required by law, whichever is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment. In addition, for any insurance required that is obtained on a claims-made basis, "tail coverage" is required at the completion of the Work for twenty-four (24) months. Continuous claims-made coverage will be acceptable in lieu of "tail coverage" provided the retroactive date is on or before the effective date of this Contract or twenty-four (24) months "prior acts" coverage is provided.

.1 The insurance required by Paragraph 21.1 above shall be written for not less than the following limits:

.1 Workers' Compensation and Employer's Liability

- (a) State Workers Compensation: Statutory
- (b) Employer's Liability: \$100,000 per Accident
\$500,000 Disease, Policy Limit
\$100,000 Disease, Each Employee

.2 Comprehensive Commercial General Liability and Umbrella Liability Insurance. Contractor shall maintain Commercial General Liability ("CGL") and, if necessary, commercial umbrella insurance with a limit of not less than \$1,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project location;

CGL insurance shall be written on Insurance Services Office ("ISO") occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operation, independent contractors, products-completed operations, personal (including employee acts) and advertising injury and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). As applicable, coverage must also include a broad form CGL endorsement if the substitute insurance is a 1973 edition CGL or its equivalent;

Owner shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 and CG 20 37 or their equivalent, which endorsement shall include coverage for the Owner with respect to liability arising out of the Work, including completed operations of Contractor, and which coverage shall be maintained in effect for the benefit of Owner for a period of two (2) years following the completion of the work specified in this Contract. Additional

insured coverage as required in this subparagraph shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to the Owner;

(a) For the hazards of explosion, collapse, and damage to underground property, commonly referred to as XCU, coverage shall be required if the exposures exist; and

This coverage may be provided by the subcontractor if the Owner and prime Contractor are named as additional insureds;

.3 Business Auto and Umbrella Liability Insurance: Contractor shall maintain business, auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than \$1,000,000 each accident;

Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos);

Business auto coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01;

If hazardous waste will be hauled, Contractor shall obtain pollution liability coverage equivalent to that provided under the ISO pollution liability-broadened coverage for covered autos endorsement (CA 99 48) and the Motor Carrier Act endorsement (MCS 90) shall be attached;

.4 If the General Liability coverages are provided by Commercial Liability policies the:

.1 General Aggregate shall be not less than \$2,000,000; and

.2 Fire legal liability shall be provided in an amount not less than \$100,000 per occurrence; and

.5 Umbrella Excess Liability. An umbrella policy may be used in combination with other policies to provide the required coverage.

21.3 The Owner shall be named as additional insured or loss payee, as applicable, on the insurance required in subparagraphs 21.2.1.2, 21.2.1.3 and 21.2.1.5 above, and the insurance shall contain the severability of interest clause as follows:

"The insurance afforded herein applies separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the company's 'liability.' "

21.4 The Contractor may include all subcontractors as insureds under the Contractor's policies in lieu of separate policies by each subcontractor. The Contractor must furnish the State of Idaho, Division of Public Works, with the required endorsements or certificates of insurance from each subcontractor which names the subcontractor, its officials, employees and volunteers as insureds.

21.5 Certificates of Insurance for Workers' Compensation shall be on the standard form. Certificates of Insurance for Commercial or Comprehensive General Liability shall be the most current ACORD Form 25 or 28, must be acceptable to the Owner and shall be filed with the Owner prior to commencement of the Work. The Owner may require proof of coverage by an endorsement. If any of the foregoing insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Contractor's Request for Payment as required by Article 7. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

ARTICLE 22 OWNER'S LIABILITY INSURANCE

The Owner, at its option, may purchase or maintain insurance for protection against claims which may arise from operations under the Contract.

ARTICLE 23 PROPERTY INSURANCE

23.1 Unless otherwise provided, the Owner shall purchase or maintain, from a company or companies lawfully authorized to do business in the State of Idaho, property insurance written on a builders risk "all-risk" or equivalent policy form in an amount not less than the initial Fixed Price Contract Amount. Such property insurance shall be maintained until final payment to the Contractor has been made. This insurance shall include interests of the Owner, the Contractor, subcontractors and sub-subcontractors.

23.2 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, but not necessarily be limited to insurance against the perils of fire (with extended coverage) and mischief, collapse, earthquake, flood, windstorm, temporary buildings and debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and shall cover necessary and reasonable expenses for the Design Professional's expenses required as a result of such insured loss.

23.3 If the property insurance requires deductibles, the Owner shall pay costs of such deductibles.

23.4 Boiler and Machinery Insurance. The Owner will purchase and maintain boiler and machinery insurance, which shall specifically cover such insured objects during installation and testing.

23.5 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of the Owner's property due to fire or other hazards, however caused.

23.6 Waivers of Subrogation. The Owner and Contractor waive all rights against: (i) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other; and (ii) the Design Professional, Design Professional's consultants, separate contractors, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages to the Work caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Article or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner. The Owner or Contractor, as appropriate, shall require of the Design Professional, Design Professional's consultants, separate contractors, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. The Owner does not waive its subrogation rights to the extent of its property insurance on structures or portions of structures that do not comprise the Work.

23.7 The Contractor authorizes the Owner to negotiate and agree on the value and extent of, and to collect the proceeds payable with respect to, any loss under a policy of insurance carried by the Owner pursuant to any of the provisions of this Article. The Owner shall have full right and authority to compromise any claim, or to enforce any claim by legal action or otherwise, or to release and discharge any insurer, by and on behalf of the Owner and Contractor. The Owner shall provide written notice to Contractor of: (i) its having reached any such settlement or adjustment with an insurer; and (ii) the receipt of any funds pursuant to this Article. Any objection by the Contractor to a settlement or adjustment made under this Article must be made in writing to the Owner within five (5) business days of the notice from the Owner. The Owner and the Contractor agree to attempt to resolve the dispute by mutual agreement.

23.8 A loss under the Owner's property insurance shall be adjusted by the Owner and made payable to the Owner for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause.

23.9 The Owner shall deposit proceeds so received, in a manner in which such proceeds can be separately accounted for, which proceeds the Owner shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract

pursuant to Article 20, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 16.

23.10 The Contractor shall pay subcontractors their shares of the insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require subcontractors to acknowledge the Owner's authority under this Article 23 and make payments to their sub-subcontractors in similar manner.

23.11 Nothing contained in this Article 23 shall preclude the Contractor from obtaining, solely at its own expense, additional insurance not otherwise required.

ARTICLE 24 PERFORMANCE AND PAYMENT BONDS

24.1 The Contractor shall furnish separate performance and payment bonds to the Owner. Each bond shall set forth a penal sum in an amount not less than the Fixed Price Contract Amount and shall include a power of attorney attached to each bond. The signature of both the Contractor (principal) and the Surety are required. If the Surety is incorporated, both bonds must have the corporate seal. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Fixed Price Contract Amount is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be AIA Document A312, or a standard surety form certified approved to be the same as the AIA Document A312, and shall be executed by a Surety, or Sureties, reasonably acceptable to the Owner and authorized to do business in the State of Idaho.

24.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

24.3 It is the Contractor's obligation to notify the Surety in the event of changes in the Contract Documents, which in the absence of notification might serve to discharge the Surety's obligations, duties or liability under bonds or the Contract.

ARTICLE 25 PROJECT RECORDS

25.1 All documents relating in any manner whatsoever to the Project, or any designated portion thereof, which are in the possession of the Contractor or any subcontractor of the Contractor, shall be made available to the Owner or the Design Professional for inspection and copying upon written request. Furthermore, said documents shall be made available, upon request by the Owner, to any state, federal or other regulatory authority and any such authority may review, inspect and copy such records. Said records include all drawings, plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos or other writings or things which document the Project, its design and its construction. Said records expressly include those documents reflecting the cost of construction to the Contractor. The Contractor shall maintain and protect these documents for no less than four (4) years after final completion or termination of the Contract or for any longer period of time as may be required by law or good construction practice.

ARTICLE 26 MISCELLANEOUS PROVISIONS

26.1 The law is hereby agreed to be the law of the State of Idaho. The parties further agree that venue for any proceeding related to this Contract shall be in Boise, Ada County, Idaho, unless otherwise mutually agreed by the parties.

26.2 Pursuant to Section 54-1904A, Idaho Code, within thirty (30) days after award of this Contract, the Contractor shall file with the Idaho State Tax Commission, with a copy to the Owner, a signed statement showing the date of Contract award, the names and addresses of the home offices of contracting parties, including all subcontractors, the state of incorporation, the Project Number and a general description of the type and location of the Work, the

amount of the prime contracts and all subcontracts and all other relevant information which may be required on forms which may be prescribed by the Idaho State Tax Commission.

26.3 The Contractor, in consideration of securing the business of erecting or constructing public works in the State of Idaho, recognizing that the business in which it is engaged is of a transitory character, and that in the pursuit thereof, its property used therein may be without the state when taxes, excises or license fees to which it is liable become payable, agrees:

.1 To pay promptly when due all taxes (other than on real property), excises and license fees due to the State of Idaho, its sub-divisions, and municipal and quasi-municipal corporations therein, accrued or accruing during the term of this Contract, whether or not the same shall be payable at the end of such term;

.2 That if the said taxes, excises and license fees are not payable at the end of said term, but liability for the payment thereof exists even though the same constitute liens upon its property, to secure the same to the satisfaction of the respective officers charged with the collection thereof; and

.3 That, in the event of its default in the payment or securing of such taxes, excises and license fees, to consent that the department, officer, board or taxing unit entering into this Contract may withhold from any payment due it hereunder the estimated amount of such accrued and accruing taxes, excises and license fees for the benefit of all taxing units to which said Contractor is liable.

26.4 Before entering into a Contract, the Contractor shall be authorized to do business in the State of Idaho and shall submit a properly executed Contractor's Affidavit Concerning Taxes (Exhibit D).

26.5 Pursuant to Section 44-1002, Idaho Code, it is provided that each Contractor "must employ ninety-five percent (95%) bona fide Idaho residents as employees on any job under any such contract except where under such contracts fifty (50) or less persons are employed the contractor may employ ten percent (10%) nonresidents, provided, however, in all cases employers must give preference to the employment of bona fide residents in the performance of said work, and no contract shall be let to any person, firm, association, or corporation refusing to execute an agreement with the above mentioned provisions in it; provided, that, in contracts involving the expenditure of federal aid funds this act shall not be enforced in such a manner as to conflict with or be contrary to the federal statutes prescribing a labor preference to honorably discharged soldiers, sailors, and marines, prohibiting as unlawful any other preference or discrimination among citizens of the United States." (Ref. Section 44-1001, Idaho Code)

26.6 The Contractor shall maintain, in compliance with Title 72, Chapter 17, Idaho Code, a drug-free workplace program throughout the duration of this Contract and shall only subcontract work to subcontractors who have programs that comply with Title 72, Chapter 17, Idaho Code.

26.7 As between the Owner and Contractor as to acts or failures to act, any applicable statute of limitations shall commence to run and any legal cause of action shall be deemed to have accrued in any and all events in accordance with Idaho law.

26.8 The Contractor and its subcontractors and sub-subcontractors shall comply with all applicable Idaho statutes with specific reference to Idaho Public Works Contractors' licensing laws in the State of Idaho, Title 54, Chapter 19, Idaho Code, as amended.

26.9 The Contractor shall not knowingly hire or engage any illegal aliens or persons not authorized to work in the United States and take steps to verify that it does not hire or engage any illegal aliens or persons not authorized to work in the United States. Any misrepresentation in this regard or any employment of persons not authorized to work in the United States constitutes a material breach and shall be cause for the imposition of monetary penalties not to exceed five percent (5%) of the Fixed Price Contract Amount per violation and/or Termination of this Contract. The Contractor also acknowledges that, if it is a natural person, it is subject to Title 67, Chapter 79, Idaho Code regarding verification of lawful presence in the United States.

ARTICLE 27 EQUAL OPPORTUNITY

The Contractor shall maintain policies of employment as follows:

27.1 The Contractor and the Contractor's subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, color, sex, age or national origin. Such action shall include the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

27.2 The Contractor and the Contractor's subcontractors shall, in all solicitation or advertisements for employees placed by them or on their behalf; state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, age or national origin.

ARTICLE 28 SUCCESSORS AND ASSIGNS

28.1 Each party binds itself, its successors, assigns, executors, administrators or other representatives to the other party hereto and to successors, assigns, executors, administrators or other representatives of such other party in connection with all terms and conditions of this Contract. The Contractor shall not assign this Contract or any part of it or right or obligation pursuant to it without prior written consent of the Owner. If Contractor attempts to make assignment without consent of Owner, Contractor shall remain legally responsible for all obligations under this Contract.

ARTICLE 29 SEVERABILITY

29.1 In the event any provision or section of this Contract conflicts with applicable law or is otherwise held to be unenforceable, the remaining provisions shall nevertheless be enforceable and shall be carried into effect.

ARTICLE 30 MEDIATION

30.1 Contractor Claims for additional cost or time are subject to Article 13, shall be reviewed as provided in accordance with that Article and, as a condition precedent to litigation, are subject to dispute resolution attempts and mediation in accordance with this Article. All other issues and disputes arising from this contract are also subject to dispute resolution attempts & mediation in accordance with this Article, as a condition precedent to litigation.

30.2 The parties agree that resolution of any dispute or disagreement without formal legal proceedings is to their mutual benefit and to the benefit of the Project.

30.3 The parties agree to make every reasonable attempt to resolve any issues or disputes informally. The parties further agree that prior to the institution by either of legal or equitable proceedings of any kind, and as a condition precedent thereto, any dispute between the Contractor and the Owner related to the Contract, including a dispute over the Owner's decision regarding a Claim, shall be subject to mediation as follows:

.1 If the issue to be mediated involves only a dispute regarding the Contract Time, no request to mediate shall be made unless liquidated damages have been assessed by the Owner. If the issue to be mediated involves a Claim or other financial dispute, no request to mediate shall be made unless the amount is \$50,000 or more or until there are cumulative Claims or disputes amounting to \$50,000 or more; provided, however, that a mediation request can be made as to any Claim or financial matter at any time after Substantial Completion;

.2 The party seeking mediation shall notify the other party in writing of its mediation request. In such written request, the requesting party must clearly describe the issues it believes are subject to mediation;

.3 Within fifteen (15) days of receipt of the mediation request, the non-requesting party shall respond in writing to the request;

.4 Unless the Owner and the Contractor agree to other rules for mediation, mediation shall be in accordance with the Construction Industry Rules of Arbitration and Mediation Procedures in effect at the time of the mediation;

.5 The parties shall share the mediator's fee and any filing fees equally; provided, however, that if a party makes a written request to the mediator without satisfying the requirements of this section and by doing so incurs any costs or fees, that party shall be solely responsible for the costs or fees;

.6 Unless otherwise mutually agreed to by the parties, the mediation shall be in Boise, Ada County, Idaho;

.7 The parties shall cooperate in arranging the other details of mediation, such as selection of the mediator, mediation dates and times;

.8 The parties agree that all parties necessary to resolve the matter shall be parties to the same mediation proceeding; provided, however, that no subcontractor or sub-subcontractor shall attend the mediation absent advance notice and consent from the Owner;

.9 Agreements reached in mediation shall be enforceable as settlement agreements in any court having proper jurisdiction; and

.10 Unless otherwise agreed in writing, the Contractor shall continue the Work and maintain the approved schedules during any mediation proceedings. If the Contractor continues to perform, the Owner shall continue to make payments in accordance with the Contract Documents.

30.4 If mediation fails to resolve the dispute, either party may file an action in the courts of Idaho in accordance with the venue provision contained in this Contract.

**ARTICLE 31
WAIVER OF CONSEQUENTIAL DAMAGES**

31.1 The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

.1 Damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation and for loss of management or employee productivity or of the services of such persons.

.2 Damages incurred by the Contractor for principal office expenses, including the compensation of personnel stationed there; for losses of income, financing, business and reputation; loss of management or employee productivity or of the services of such persons; and for loss of profit except profit arising directly from the Work.

31.2 This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Articles 18 and 20. Nothing contained in this paragraph shall be deemed to preclude an award of the assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

IN WITNESS WHEREOF, the parties have executed this Contract on the dates set forth below.

OWNER

State of Idaho
Division of Public Works

By: _____
Pat Donaldson, Administrator

Date Executed

CONTRACTOR

(Contractor's Name- Typed)

SEAL

Date Executed

By: _____
Signature

Printed Name

Title

EXHIBIT A

OWNER'S PROJECT IDENTIFICATION INFORMATION:

DPW Project No. 21-239
Project Title: ISU Pulling Courts Siding
Project Location: 756 S. 10th Ave., Pocatello, Idaho 83201

General Project Description: A description of the work of this project can be summarized as including but is not limited to removing and replacing existing wood siding with vinyl siding. Also to include the replacement of windows with aluminum clad wood double hung windows.

ADDENDA: Addenda applicable to the Contract and made a part of are as follows:

Addendum No. _ Dated _____
Addendum No. _ Dated _____
Addendum No. _ Dated _____

FIXED PRICE CONTRACT AMOUNT AND ACCEPTED ALTERNATES:

Base Bid Amount:				\$.00
Alternate No. ___	(_____)	add		\$.00
Alternate No. ___	(_____)	add		\$.00
Alternate No. ___	(_____)	add		\$.00
Total Fixed Price Contract Amount				
	(_____)	Dollars		\$.00

Contractor's Requests for Payment are to be submitted for Work accomplished through the ____ day of each month as described in Paragraph 7.3.

TIME FOR PERFORMANCE AND LIQUIDATED DAMAGES:

- A. The Contractor shall commence construction of its scope of the Work in accordance with the Notice to Proceed issued by the Owner, and which will become Exhibit F to this Contract.
- B. The Contractor shall accomplish Substantial Completion as defined in Article 6 of the Contract within one hundred fifty (150) consecutive calendar days from the date authorized to proceed in the Notice to Proceed.
- C. The amount of liquidated damages per day for each and every day of unexcused delay as outlined in Article 6 on the Contract is: Two Hundred and Fifty Dollars (\$250.00)

DRAWINGS AND SPECIFICATIONS

The Owner shall furnish the Contractor _ sets of Drawings and Project Manuals.

EXHIBIT B

ADDRESSES and AUTHORIZED REPRESENTATIVES: The names, addresses and authorized representatives of the Owner, the Contractor and the Design Professional are:

OWNER: State of Idaho
Division of Public Works
502 N. 4th Street
P.O. Box 83720
Boise, ID 83720-0072
Pat Donaldson, Administrator

Project Manager: Martin Santoyo
Telephone: (208) 332-1913
E-mail: martin.santoyo@adm.idaho.gov
May sign for Owner: Yes [X] No []

Field Representative: Fred Richards
Telephone: (208) 269-0639
E-mail: fred.richards@adm.idaho.gov
May sign for Owner: Yes [X] No []

CONTRACTOR: _____ (company name)
_____ (address)
_____ (city, state, zip)
_____ (telephone and FAX)
Public Works Contractors License No. _____

Officer: _____ (name and title)
_____ (telephone)
_____ (E-mail)

Contractor's
Project Manager: _____ (name)
_____ (telephone and FAX)
_____ (E-mail)
May sign for Contractor: Yes [] No []
Change Orders: up to: \$____.00
Construction Change Authorizations: up to: \$____.00
Contractor's Request for Payment

Contractor's
Superintendent: _____ (name)
_____ (telephone and FAX)
_____ (E-mail)
May sign for Contractor: Yes [] No []
Construction Change Authorizations: up to \$____.00

DESIGN

PROFESSIONAL:

NBW Architects, P.A.
990 John Adams Parkway
Idaho Falls, Idaho 83403
Telephone: 208.522.8779
Fax: 208.522.8785

Professional's
Project Manager:

James Wyatt
Professional License No. AR 92339
Telephone: 208.522.8779
Fax: 208.522.8785
jhw@nbwarchitects.com

Professional's
Field Representative:

James Wyatt
Telephone: 208.522.8779
Fax: 208.522.8785
jhw@nbwarchitects.com

May sign for Design Professional:

Field Reports	Yes [X]	No []
Change Order Proposal Requests	Yes [X]	No []
Construction Change Authorization:	Yes [X]	No []
Construction Change Order	Yes [X]	No []
Design Professional's Supplemental Instructions	Yes [X]	No []
Interpretations of the Contract Documents	Yes [X]	No []
Contractor's Request for Payment	Yes [X]	No []
Acceptance of Substantial Completion	Yes [X]	No []
Acceptance of final completion	Yes [X]	No []

EXHIBIT C

LIST OF DRAWINGS:

GENERAL

G1.0 General Information

ARCHITECTURAL

A1.1 Demolition Plans Buildings A & H
A1.2 Demolition Plans Buildings B,C,D,E,F,G,I,J
A1.3 Demolition Elevations
A1.4 Floor Plans Buldings A & H
A1.5 Floor Plans Buildings B,C,D,E,F,G,I,J
A2.1 Building Elevations
A3.1 Building Sections
A5.1 Details
A5.2 Details
A6.1 Window Details

LIST OF SPECIFICATIONS:

DIVISION 1 - GENERAL REQUIREMENTS

01 1000 Summary
01 2200 Unit Prices
01 2500 Substitution Procedures
01 2600 Contract Modification Procedures
01 2900 Payment Procedures
01 3100 Project Management and Coordination
01 3200 Construction Progress Documentation
01 3300 Submittal Procedures
01 4000 Quality Requirements
01 4200 References
01 5000 Temporary Facilities and Controls
01 6000 Product Requirements
01 7300 Execution
01 7419 Construction Waste Management and Disposal
01 7700 Closeout Procedures
01 7823 Operation and Maintenance Data
01 7839 Project Record Documents
01 7900 Demonstration and Training

DIVISION 02 THRU DIVISION 05 – NOT USED

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

06 1053 Miscellaneous Rough Carpentry
06 1600 Sheathing
06 2023 Interior Finish Carpentry

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

07 2500 Weather Barriers
07 4633 Plastic Siding
07 5419 Polyvinyl-Chloride (PVC) Roofing
07 6200 Sheet Metal Flashing and Trim
07 7123 Manufactured Gutters and Downspouts
07 9200 Joint Sealants

DIVISION 08 – WINDOWS AND DOORS

08 5213 Aluminum Clad Wood Double Hung Windows
08 9119 Fixed Louvers

DIVISION 09 – FINISHES

09 2900 Gypsum Board
09 9123 Painting

DIVISION 10 THRU DIVISION 35 – NOT USED

EXHIBIT D

CONTRACTOR'S AFFIDAVIT CONCERNING TAXES

STATE OF _____)

COUNTY OF _____)

Pursuant to the Title 63, Chapter 15, Idaho Code I, the undersigned, being duly sworn, depose and certify that all taxes, excises and license fees due to the State or its taxing units, for which I or my property is liable then due or delinquent, has been paid, or arrangements have been made, before entering into a Contract for construction of any public works in the State of Idaho.

Name of Contractor

Address

City and State SEAL

By:

(Signature)

Subscribed and sworn to before me this _____ day of _____, _____.

NOTARY PUBLIC

Residing at: _____

Commission expires: _____

EXHIBIT E

NAMED SUBCONTRACTORS:

Pursuant to Section 67-2310, Idaho Code, commonly known as the naming law, the names and addresses of the entities who will perform the plumbing, heating and air conditioning and electrical work were named in the bid and are as follows:

Electrical (PWCL Category 1600)

(Name) _____

(Address) _____

Idaho Public Works Contractors License No. _____

Idaho Electrical Contractors License No. _____

EXHIBIT G

**Idaho State Tax Commission
REQUEST FOR TAX RELEASE**

Date: _____

PART I -- AWARDING AGENCY INFORMATION:

Name of agency		Mailing address	City, state, and ZIP Code
Contact name	Phone number	Email address	

PART II -- CONTRACTOR INFORMATION:

Name of contractor		Mailing address	City, state, and ZIP Code
Federal EIN	Contact name	Phone number	Email address

PART III -- CONSTRUCTION/CONTRACT MANAGER INFORMATION (if applicable):

Name of business		Mailing address	City, state, and ZIP Code
Federal EIN	Contact name	Phone number	Email address

Send a copy of the approved Tax Release to: Awarding Agency Contractor Construction Manager

NOTE: We will email all copies unless otherwise requested

PART IV -- PROJECT INFORMATION:

Name of project		Location of project	
Description of project			
Project number assigned by awarding agency	Project start date	Project completion date	Final/closing contract amount (includes all change orders)
			\$

Did any government entities supply materials which were installed by this contractor or its subs?: Yes No

If YES, list these materials and their dollar values. (Attach additional information if needed)

List Materials	List Dollar Values of Materials
	\$
	\$
	\$

Send to: Contract Desk/Sales Tax Audit
Idaho State Tax Commission
PO Box 36
Boise ID 83722-0410
Phone: (208) 334-7618 • Fax: (208) 332-6619 • Email: contractdesk@tax.idaho.gov

NOTE: Please allow 30 days to process a Tax Release Request. You must send a complete, signed Form WH-5 Public Works Contract Report to the Idaho State Tax Commission to complete this request.

EXHIBIT H

RELEASE OF CLAIMS

(TO BE COMPLETED FOR FINAL PAYMENT)

I, _____, do hereby release the State of Idaho from any and all claims of any character whatsoever arising under and by virtue of contract number _____. Dated _____ as amended, except as herein stated.

Dated _____ Contractor _____

EXHIBIT J

Conditions Precedent to Final Payment

Date: _____
DPW Project No. _____
Project Title: _____
Location: _____

Send to:
State of Idaho
Division of Public Works
502 N. Fourth Street
Boise, Idaho 83702

Copy to:
Design Professional

Contractor's Responsibilities:

Per Paragraph 7:13 of the Fixed Price Contract: As a condition precedent to final payment, the Contractor must furnish the owner, in the form and manner required by Owner, to be submitted to the Design Professional for approval, the following:

- Contractor's Final Request for Payment Form has been uploaded to OMS;
- Release of Claims form has been uploaded to OMS (DPW's form, Exhibit H);
- Contractor's Affidavit of Payment of Debts and Claims Form has been uploaded to OMS (AIA G706);
- Consent of Surety to Final Payment has been uploaded to OMS (AIA G707);
- Confirmation of all required training (DPW's Training Confirmation Exhibit K), product warranties, operating manuals, instruction manuals and other record documents, drawings and items customarily required of the Contractor has been uploaded to OMS.
- Public Works Contract Tax Release from the Idaho Tax Commission has been uploaded to OMS;
- Division of Building Safety Letter of Completion/Final Inspection has been uploaded to OMS (as required);
- Project Finalization and Start Up has been uploaded to OMS (as required, Exhibit L);

Contractor's Signature Date

Design Professional's Approval for Payment:

- All Documents Required per Paragraph 7.13 of the Fixed Price Contract have been uploaded to OMS.
- All Warranties, Guarantees, etc. have been received, approved and have been uploaded to OMS.
- Contractor's As-Built Drawings, have been received, reviewed, approved and uploaded to OMS in PDF format.
- Final punch list with AE's verification that all items have been completed, has been uploaded to OMS.
- Record Drawings have been completed by AE. All required copies of the Record Documents and electronic media are attached and uploaded to OMS in PDF, and DWG 2010 format. DWG files should be bound in zip folder, or "e-transmit" folder, containing all drawing files with relevant dependencies (i.e. x-refs, images, title blocks, and pen settings). *Record Drawings are a requirement for the AE's final payment; not the Contractor's.*

To the best of my knowledge, information, and belief, and on the basis of my observations and inspections, I certify the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the required documentation required by Paragraph 7.13 of the fixed priced contract has been received. The entire balance, as shown on the attached Final Request for Payment, is due and payable.

Design Professional's Signature Date

EXHIBIT L

PROJECT FINALIZATION AND START-UP

Upon completion of the equipment and systems installation and connections, the contractor shall assemble all equipment factory representative and subcontractors together for system start-up.

These people shall assist in start-up and check out their system(s) and remain at the site until the total system operation is acceptable and understood by the agency's representative(s). The factory representative and system subcontractor shall also give instructions on operation and maintenance of their equipment to the agency's maintenance and/or operation personnel. To prove acceptance of operation and instruction by the agency's representative(s), this written statement of acceptance shall be signed below.

"I, the Contractor, associated factory representative and subcontractors, have started each system and the total system; and have proven their normal operation to the agency's representative(s) and maintenance/operation personnel and have instructed him/them in the operation and maintenance thereof."

Agency's Representative

Contractor

Signature

Signature

Date

Date

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TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

011000	SUMMARY
012200	UNIT PRICES
012500	SUBSTITUTION PROCEDURE
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
014000	QUALITY REQUIREMENTS
014200	REFERENCES
015000	TEMPORARY FACILITIES AND CONTROLS
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017419	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
017700	CLOSEOUT PROCEDURES
017823	OPERATION AND MAINTENANCE DATA
017839	PROJECT RECORD DOCUMENTS
017900	DEMONSTRATION AND TRAINING

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SECTION 01 1000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Project information.
 2. Work covered by contract documents.
 3. Phased construction.
 4. Work by Owner.
 5. Contractor use of site and premises.
 6. Work under separate contracts.
 7. Protection of building, contents, and grounds.
 8. Coordination with occupants.
 9. Work Restrictions
 10. Permits.
 11. Waste disposal.
 12. Specification and drawing conventions.
 13. General security requirements.
 14. Safety and health regulations
 15. COVID-19 standards and procedures.
- B. Related Requirements:
1. Section 01 5000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

- A. Project Identification:
1. DPW 21239 ISU Pulling Courts - Siding, 756 S. 10th Ave., Pocatello, ID 83201.
- B. Owner: State of Idaho, Division of Public Works.
1. Owner's Representative: Martin Santoyo, DPW Project Manager, P.O. Box 83720, Boise, Idaho 83720-0072, Telephone: 208-332-1913.
- C. Field Representative:
1. Representative: Fred Richards, Telephone: 208 269-0639
 - a. Coordinate and schedule local construction activities with the Agency Representative.
- D. Architect: NBW Architects, P.A., 990 John Adams Parkway, P.O. Box 2212, Idaho Falls, Idaho 83403, Telephone: 208-522-8779. Fax: 208-522-8785.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
1. Work of this project includes but is not limited to removing and replacing existing wood siding with vinyl siding. Also to include the replacement of windows with aluminum clad wood double hung windows.
- B. Type of Contract.
1. Project will be constructed under a single prime contract.

1.4 PHASED CONSTRUCTION

- A. The timing of the work in the buildings needs to be carefully coordinated with the agency to ensure required access and egress is acceptable while work is underway. Complete work in a manner to limit disruption to residents and day-to-day operations.

1.5 WORK BY OWNER

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
- B. Preceding Work: Owner will perform the following construction operations at Project site. Those operations are scheduled to be substantially complete before work under this Contract begins.
 - 1. Moving of furniture and / or equipment in area of work to be completed.
- C. Subsequent Work: Owner will perform the following additional work at site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract.
 - 1. Furniture and Owner Furnished Owner Installed (OFOI) Equipment.
- D. Items noted NIC (Not in Contract), will be furnished and installed by the Owner/Agency.

1.6 CONTRACTOR'S USE OF SITE AND PREMISES

- A. General: Contractor shall have limited use of Project site for construction operations as and as indicated by requirements of this Section.
- B. Work may begin at Notice to Proceed.
- C. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas indicated. Do not disturb portions of the site beyond the areas in which the work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy and use by the public.
 - 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site. The Contractor shall be responsible for his own on-site storage.
- D. Use of the Existing Buildings: Maintain the existing buildings in an operable condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
- E. Behavior and Dress: The Contractor and all Contractors representatives, to include subcontractors, consultants, vendors or other parties hired by the Contractor will maintain professional behavior and wear appropriate attire that always identifies their company while on the job site.

1.7 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

1.8 PROTECTION OF BUILDING, CONTENTS, AND GROUNDS.

- A. Construction Site Lay-down and Storage:
 - 1. Coordinate exact locations with Agency (ISU) at pre-construction meeting.

1.9 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - a. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

- B. The timing of the work on the windows and utilities needs to be carefully coordinated with the agency to ensure minimal disruption to the residents while work is underway.
 - 1. No work is to be performed on site during the weeks of December 12-17, 2021 and May 1-6, 2022.

1.10 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: The Contractor may determine his own hours of work except where interfacing with the Owner which shall be on an 8:00 a.m. to 5:00 p.m. basis.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
- D. Nonsmoking Project: Smoking is not permitted on Project site.
- E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
- F. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Contractor Employee Standards:
 - 1. Contractors are to limit verbal interaction with Residents to cordial conversation.
 - 2. Foul language and/or inappropriate conduct around a Resident or Staff member will be cause for immediate removal from the project.
- H. Contractor Parking: Coordinate with Agency.
- I. Maintain cleanliness in areas adjacent to and surrounding the construction area to the satisfaction of the Owner at all times.

1.11 PERMITS

- A. Contractor to furnish all necessary permits for construction of the Work.

1.12 WASTE DISPOSAL

- A. The contractor is responsible for any and all demolition and/or removal as necessary and required to fulfill the requirements of the Contract Documents.

1.13 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and/or scheduled on Drawings.

1.14 GENERAL SECURITY REQUIREMENTS

- A. Limit access to the site to persons involved in the work.
- B. Provide secure storage for materials for which the owner has made payment and which are stored on site.
- C. Secure completed work as required to prevent loss.

1.15 SAFETY AND HEALTH REGULATIONS

- A. It shall be the Contractor's responsibility to meet all requirements for Department of Labor Bureau of Labor Standards set forth for Safety and Health Regulations for Construction, including OSHA.

1.16 COVID-19 STANDARD OPERATING PROCEDURES

- A. All construction workers shall comply with all ISU, CDC, and OSHA guidelines as it pertains to best practices for maintaining a safe work environment during the COVID-19 Pandemic.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1000

SECTION 01 2200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1 – Replace Gypsum and Paint Wall:
 - 1. Description: Provide a unit price to remove, replace, and finish all the gypsum in the interior surround of any window with deteriorated or damaged gypsum and paint the wall the window is in according to Section 09 2900 "Gypsum Board" and Section 09 9123 "Painting."
 - 2. Unit of Measurement: Each window.
- B. Unit Price No. 2 – Replace Sheathing:
 - 1. Description: Provide a unit price to remove and replace each sheet of deteriorated 4' x 8' wall sheathing according to Section 06 1600 "Sheathing."
 - 2. Unit of Measurement: Each 4' x 8' sheet.

END OF SECTION 01 2200

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SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01 6000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
- b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution provides sustainable design characteristics that specified product provided.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

SECTION 01 2600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, through DPW's Projectmates web-based project management software system.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Contractor will upload proposal request into DPW's Projectmates web-based project management software system.
- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change through DPW's Projectmates web-based software system.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Section 01 2500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - a. Work Change Proposal Request Form: Contractor will upload request into DPW's Projectmates web-based project management software system.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's or his designee's approval of a Work Changes Proposal Request, Architect will issue a Change Order through DPW's Projectmates web-based project management software system.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive through DPW's Projectmates web-based software system. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2600

SECTION 01 2900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment on **DPW's Owners web-based management software (OMS)**.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. The Contractor will be given a DPW excel "schedule of values" spreadsheet to fill in the line items that pertain to the Project.
 - 2. Submit the schedule of values on DPW's excel "schedule of values" template to the Architect, DPW's Project Manager and DPW's Field Representative. The Contractor will be required to submit Schedule of Values with construction bonds prior to contract execution. The schedule of values will be part of the contract. (Ref FPCC).
 - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts where needed.
 - 4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 - 5. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 - 6. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
 - 7. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
 - 8. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and all payments will be **electronically approved** by the Contractor, Architect, DPW Field Representative, DPW Project Manager, and DPW Senior Field Representative and paid for by Owner via Owners web-based management software.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
 - 1. Electronically upload Application for Payment to the Owners web-based management software by the first day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
- C. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- D. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).
 6. Copies of building permits.
 7. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 8. Initial progress report.
 9. Data needed to acquire Owner's insurance.
- E. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, upload an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
- F. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Marked up Record Drawings and Specifications.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Contractor's Affidavit of Payment of Debts and Claims Form. AIA Document G706.
 5. Consent of Surety to Final Payment. AIA Document G707.
 6. Release of Claims form, Exhibit H. Evidence that claims have been settled.
 7. Confirmation of all required training, product warranties, operating manuals, instruction manuals and other record documents, drawings and items customarily required of the Contractor.
 8. Public Works Contract Tax Release from the Idaho Tax Commission.
 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 10. Final liquidated damages settlement statement.
 11. Any and all other items required by DPW under the applicable contract requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2900

SECTION 01 3100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination drawings.
 - 2. Requests for Information (RFIs).
 - 3. Project meetings.
- B. Related Requirements:
 - 1. Section 01 7300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Personnel Names: Within seven (7) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
 - 1. Post copies of list in project meeting room, in temporary field office. Keep list current at all times.

1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 3. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
 4. Review: Design Professional will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Design Professional determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Design Professional will so inform Contractor, who shall make changes as directed and resubmit.
 5. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."
 6. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
 2. File Preparation Format: **DWG**, Version 2013 or later, operating in Microsoft Windows operating system.
 3. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format.

4. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Digital Data Software Program: Drawings are available in AutoCad DWG format, version 2013 or later.
5. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and upload an RFI in the Owners web-based management software (OMS).
 1. Design Professional will approve RFIs with any comments through OMS.
 2. Design Professional shall notify DPW of the Design Professional's Representative who will receive and respond to RFIs.
 3. Contractor to upload RFIs in a prompt manner so as to avoid delays in the work or work of subcontractors.
 4. Contractor and Design Professional can copy any Team members the question and/or response within OMS.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Input information required by OMS. Project number.
 2. RFI subject.
 3. Specification Section number and title and related paragraphs, as appropriate.
 4. Drawing number and detail references, as appropriate.
 5. Field dimensions and conditions, as appropriate.
 6. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 7. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to upload a PCO according to Section 01 2600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- D. RFI Log: Use software log that is part of web-based Project software.
- E. On receipt of Architect's action, review response and notify Architect within seven days if Contractor disagrees with response.
 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Architect's Data Files Not Available: Architect **will not** provide Architect's CAD drawing digital data files for Contractor's use during construction.
- B. Web-Based Project Software: Use **Owner's** web-based management software site (OMS) for purposes of hosting and managing Project communication and documentation until Final Completion.
 - 1. Web-based Project software site includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, Architect, architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Proposed Change Orders, Construction Change Directives, and Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.
- C. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
 - 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
- B. Preconstruction Conference: The Owner (DPW) will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner, Agency and Architect.
 - 1. Attendees: Authorized representatives of Owner, Agency, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Minutes: The Design Professional will be responsible for the meeting minutes and will record and distribute via the Owners web-based management software.
- C. Preinstallation or Premanufacturing Conferences: Conduct a conference at Project site before each construction activity that requires coordination with other construction.
 - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.

- d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Architect will conduct progress meetings at monthly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.

- 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: Design Professional responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3100

SECTION 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Site condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file, where indicated.
 - 2. PDF electronic file.
- B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- D. Construction Schedule Updating Reports: Submit with Applications for Payment.
- E. Daily Construction Reports: Submit at monthly intervals.
- F. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 3300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 1. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 2. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 3. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 1. Unresolved issues.
 2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
 5. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.

- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 7 days of date established for commencement of the Work.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events.
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Meter readings and similar recordings.
 - 12. Emergency procedures.
 - 13. Orders and requests of authorities having jurisdiction.
 - 14. Change Orders received and implemented.
 - 15. Construction Change Directives received and implemented.
 - 16. Services connected and disconnected.
 - 17. Equipment or system tests and startups.
 - 18. Partial completions and occupancies.
 - 19. Substantial Completions authorized.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 3200

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Architect.
 - 4. Name of Construction Manager.
 - 5. Name of Contractor.
 - 6. Name of firm or entity that prepared submittal.
 - 7. Names of subcontractor, manufacturer, and supplier.
 - 8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
 - 9. Category and type of submittal.
 - 10. Submittal purpose and description.
 - 11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 - 12. Drawing number and detail references, as appropriate.
 - 13. Indication of full or partial submittal.
 - 14. Location(s) where product is to be installed, as appropriate.
 - 15. Other necessary identification.
 - 16. Remarks.
 - 17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

- D. Submittals:
- E. Upload Submittals on Owners web-based management software. Contractor to initiate the process via “Construction Management”, then “Submittal” tab within the website.
- F. PDF Submittals: Upload submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- G. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 - 2. Samples: Prepare submittals and deliver to Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow seven (7) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Resubmittal Review: Allow seven (7) days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.

- g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Transmittal: Upload PDF transmittal to the Owners web based management software under submittals. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Web-Based Project Software: Prepare submittals in PDF form, and upload to Owners web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two (2) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three (3) sets of Samples. Architect will retain one Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

- 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

1.7 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before uploading to the Owners web based management software.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp that is indicated on the web-based submittal. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.8 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required within the "Comment" box on the web site.
 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
 2. Submittals by Web-Based Project Software: Architect will indicate, on Project software website, the appropriate action.
 - a. Actions taken by indication on Project software website have the following meanings:
 - 1) Approved, Pending, Overdue, Complete, or Rejected.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be rejected for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3300

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

- B. Delegated-Design Services Statement: Submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work 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.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project. If other design professionals are indicated in Specification Sections, insert qualifications here.

- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

- G. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.7 QUALITY CONTROL

- A. **Manufacturer's Field Services:** Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- B. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- C. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. **General:** On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 7300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 4000

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SECTION 01 4200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.
 - 1. DIN - Deutsches Institut für Normung e.V.; www.din.de.
 - 2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 - 3. ICC - International Code Council; www.iccsafe.org.

4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.
1. COE - Army Corps of Engineers; www.usace.army.mil.
 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 4. DOD - Department of Defense; <http://dodssp.daps.dla.mil>.
 5. DOE - Department of Energy; www.energy.gov.
 6. EPA - Environmental Protection Agency; www.epa.gov.
 7. FAA - Federal Aviation Administration; www.faa.gov.
 8. FG - Federal Government Publications; www.gpo.gov.
 9. GSA - General Services Administration; www.gsa.gov.
 10. HUD - Department of Housing and Urban Development; www.hud.gov.
 11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; <http://eetd.lbl.gov>.
 12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
 13. SD - Department of State; www.state.gov.
 14. TRB - Transportation Research Board; National Cooperative Highway Research Program; www.trb.org.
 15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
 16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
 17. USDJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
 18. USP - U.S. Pharmacopeia; www.usp.org.
 19. USPS - United States Postal Service; www.usps.com.
- D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.
1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
 2. DOD - Department of Defense; Military Specifications and Standards; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
 3. DSCC - Defense Supply Center Columbus; (See FS).
 4. FED-STD - Federal Standard; (See FS).
 5. FS - Federal Specification; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.
 6. MILSPEC - Military Specification and Standards; (See DOD).
 7. USAB - United States Access Board; www.access-board.gov.
 8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4200

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 01 1000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. HVAC system isolation schematic drawing.
 - 3. Location of proposed air-filtration system discharge.
 - 4. Waste-handling procedures.
 - 5. Other dust-control measures.
 - 6. Noise control measures.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
 - 3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 - 2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- D. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- B. Waste Disposal Facilities: Comply with requirements specified in Section 01 7419 "Construction Waste Management and Disposal."
- C. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 - 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 7700 "Closeout Procedures."

END OF SECTION 01 5000

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01 2500 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within seven (7) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Architect's Approval of Submittal: As specified in Section 01 3300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 3300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.

4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
 3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
 4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
 5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
 6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."
 7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 2500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 2500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 2. Evidence that proposed product provides specified warranty.
 3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 4. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 6000

SECTION 01 7300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.

- B. Related Requirements:
 - 1. Section 01 1000 "Summary" for limits on use of Project site.
 - 2. Section 01 7700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Noise- and vibration-control elements and systems.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
 - 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
 - 6. Dates: Indicate on the contractor's schedule when cutting and patching will be performed.

- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 01 3100 "Project Management and Coordination."

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of in occupied spaces and in unoccupied spaces, or as required by authorities having jurisdiction.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Remove and replace damaged, defective, or non-conforming Work.

3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 01 1000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 AGENCY-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's and Agency construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner and Agency construction personnel.
 - 1. Construction Schedule: Inform Owner/Agency of Contractor's preferred construction schedule for Owner/Agency portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner/Agency in a timely manner if changes to schedule are required due to differences in actual construction progress.

2. Preinstallation Conferences: Include Owner/Agency construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner/Agency work. Attend preinstallation conferences conducted by Owner/Agency construction personnel if portions of the Work depend on Owner's construction.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 7419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 01 9113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 01 4000 "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 7300

SECTION 01 7419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous construction waste.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 7419

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SECTION 01 7700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of the Contract, including Fixed Price Construction Contract and other Division 01 Specification Sections, apply to this Section.
- B. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- C. Related Requirements:
 - 1. Section 01 7823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 2. Section 01 7839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 3. Section 01 7900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Idaho Division of Public Works Close-Out requirements, including "Conditions Precedent to Final Payment" list. The "Project Finalization" form is required unless specifications indicate otherwise.
- C. Certificate of Insurance: For continuing coverage.
- D. Field Report: For pest control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of seven (7) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 5. Submit sustainable design submittals not previously submitted.
 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 7. A final report of Special Inspections to be attached to the Substantial Completion. If no Special Inspections are required, Design Professional can initial as such on the Substantial Completion form.
 8. Submit O&M Manuals for compliance with the contract documents.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of seven (7) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 7900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of ten (10) days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Upload a final Application for Payment according to Section 01 2900 "Payment Procedures" to DPW's Construction Management Portal.
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Idaho Division of Public Works Close-Out requirements.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will approve/initial punch list after inspection or will notify Contractor of construction that must be completed or corrected before final documents will be signed.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect will return annotated file.
 - b. PDF electronic file. Architect will return annotated file.
 - c. Web-based project software upload. Utilize software feature for creating and updating list of incomplete items (punch list).

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within ten (10) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit on digital media acceptable to Architect and by uploading to web-based project software site.
- E. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 01 5000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 7419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations, as well as any damage to surrounding areas. Repair includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition before requesting inspection for determination of Substantial Completion.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

- B. Repair, or remove and replace, defective construction.

END OF SECTION 01 7700

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SECTION 01 7823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect and by uploading to web-based project software site. Enable reviewer comments on draft submittals.
 - 2. Submit three paper copies. Architect will return two copies.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 7 (seven) days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- D. Comply with Section 01 7700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - 2. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

- b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.4 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.5 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.

- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

1.6 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
 - 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
 - 1. Startup procedures.
 - 2. Equipment or system break-in procedures.
 - 3. Routine and normal operating instructions.
 - 4. Regulation and control procedures.
 - 5. Instructions on stopping.
 - 6. Normal shutdown instructions.
 - 7. Seasonal and weekend operating instructions.
 - 8. Required sequences for electric or electronic systems.
 - 9. Special operating instructions and procedures.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.7 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds, as described below.
- C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
- H. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1.8 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.

2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7823

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SECTION 01 7839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 01 7823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
- B. Record Specifications: Submit one paper copy and scanned PDF file of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy and scanned PDF file of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised Drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. Note related Change Orders, record Product Data, and record Drawings where applicable.

- B. Format: Submit record Specifications as paper copy and scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as paper copy and scanned PDF electronic file(s) of marked-up paper copy of Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy and scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 01 7839

SECTION 01 7900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.

1.2 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

1.3 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit one copy (1) within seven (7) days of end of each training module.
 - 1. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 01 7823 "Operation and Maintenance Data."

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 4000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 01 3100 "Project Management and Coordination."

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.6 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
 5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
 6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
 7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
 8. Repairs: Include the following:
 - a. Diagnosis instructions.

- b. Repair instructions.
- c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
- d. Instructions for identifying parts and components.
- e. Review of spare parts needed for operation and maintenance.

1.7 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 7823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.8 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner with at least ten (10) days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- F. Cleanup: Collect used and leftover educational materials and remove from Project. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 01 7900

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DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

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061600	SHEATHING
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SECTION 06 1053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Framing with dimension lumber.
 2. Wood blocking and nailers.
 3. Wood furring.
 4. Fire-retardant treated wood.
 5. Plywood backing panels.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
1. Preservative-treated wood.
 2. Fire-retardant-treated wood.
 3. Power-driven fasteners.

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, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded 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.
- B. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- 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. Do not use inorganic boron (SBX) for sill plates.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or 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.
- D. Application: Treat items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to 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. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
 2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 3. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D5664, and design value adjustment factors shall be calculated according to ASTM D6841.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- C. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- D. Application: Treat items indicated on Drawings, and the following:
 1. Framing for raised platforms.
 2. Concealed blocking.
 3. Roof framing and blocking.
 4. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
 5. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

- A. Other Framing: No. 2 grade of the following species:
 1. Douglas fir-larch; WCLIB or WWPA.

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. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.
- C. Concealed Boards: 15 percent maximum moisture content of the following species and grades:
 1. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.6 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 5/8-inch nominal thickness.

2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where 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. Screws for Fastening to Metal Framing: ASTM C1002, length as recommended by screw manufacturer for material being fastened.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.8 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view. Plywood acting as a finish surface, screw holes shall be filled with acceptable wood putty and smoothed flush prior to paint.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- F. Securely attach 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.
 - 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.

3.2 WOOD BLOCKING

- A. Provide solid wood blocking at the following locations including, but not limited to:
 - 1. Door stops.
 - 2. Grab bars.
 - 3. Parapet Caps
 - 4. Wall mounted toilet accessories.
 - 5. Provide 2 rows each at base and upper cabinets and casework.
 - 6. AV Monitor Brackets
 - 7. Toilet partitions.
 - 8. Mirrors.
 - 9. Markerboards.

10. Other wall mounted fixtures.

3.3 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.

END OF SECTION 06 1053

SECTION 06 1600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fire-retardant treated sheathing and wall paneling.
 - 2. Parapet sheathing.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preserved-treated plywood.
 - 2. Fire-retardant-treated plywood.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 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 according to 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. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.
 - 2. Design Value Adjustment Factors: Treated lumber plywood shall be tested according to ASTM D5516 and design value adjustment factors shall be calculated according to ASTM D6305. Span ratings after treatment shall be not less than span ratings specified.
- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat all plywood unless otherwise indicated.

2.3 WALL SHEATHING

- A. Plywood Sheathing: Fire-retardant treated Exposure 1 sheathing.

- B. Oriented-Strand-Board Sheathing: DOC PS 2, Fire-retardant treat Exposure 1 sheathing.

2.4 PARAPET SHEATHING

- A. Plywood Sheathing: Fire-retardant treated Exposure 1 sheathing.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Fire-retardant treat Exposure 1 sheathing.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

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 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
 3. ICC-ES evaluation report for fastener.
- D. Coordinate wall parapet sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

END OF SECTION 06 1600

SECTION 06 2023 - INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood windowsills.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20.
 - 1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
 - a. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.
- B. Softwood Plywood: DOC PS 1.
- C. MDF: ANSI A208.2, Grade 130.
- D. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue.

2.2 WOOD WINDOWSILLS:

- A. Softwood Lumber Sill:
 - 1. Species and Grade: Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine; D Select (Quality); NeLMA, NLGA, or WWPA.
 - 2. Maximum Moisture Content: 19 percent.
 - a. Provide rounded front edge.
 - b. Sills shall be continuous between window jambs.
 - c. Painted, color as selected by architect.

2.3 MISCELLANEOUS MATERIALS

- A. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
 - 1. Wood glue shall have a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.2 INSTALLATION, GENERAL

- A. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
 2. Countersink fasteners, fill surface flush, and sand unless otherwise indicated.
 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 4. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.

END OF SECTION 06 2023

T A B L E O F C O N T E N T S

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

072500	WEATHER BARRIERS
074633	PLASTIC SIDING
075419	POLYVINYL-CHLORIDE (PVC) ROOFING
076200	SHEET METAL FLASHING AND TRIM
077123	MANUFACTURED GUTTERS AND DOWNSPOUTS
079200	JOINT SEALANTS

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SECTION 07 2500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building paper.
 - 2. Building wrap.

1.2 ACTION SUBMITTALS

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

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For water-resistive barrier, from ICC-ES.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

- A. Building Paper: ASTM D226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.
- B. Building Paper: Water-vapor-permeable, asphalt-saturated kraft building paper that complies with ICC-ES AC38, Grade D; except with water-resistance rating not less than 1 hour.
- C. Building Wrap: ASTM E1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E84; UV stabilized; and acceptable to authorities having jurisdiction.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. [Dow Chemical Company \(The\); Styrofoam Weathermate Plus Brand Housewrap.](#)
 - b. [DuPont \(E. I. du Pont de Nemours and Company\); Tyvek CommercialWrap.](#)
 - c. [Raven Industries Inc.; Fortress Pro Weather Protective Barrier.](#)
 - d. [Reemay, Inc.; Tynar HouseWrap.](#)
 - 2. Water-Vapor Permeance: Not less than 50 g through 1 sq. m of surface in 24 hours per ASTM E 96/E 96M, Desiccant Method (Procedure A).
 - 3. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.
- D. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

- A. Cover sheathing with water-resistive barrier as follows:
 - 1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.
 - 2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap unless otherwise indicated.
- B. Building Paper: Apply horizontally with a 2-inch overlap and a 6-inch end lap; fasten to sheathing with galvanized staples or roofing nails.
- C. Building Wrap: Comply with manufacturer's written instructions and warranty requirements.
 - 1. Seal seams, edges, fasteners, and penetrations with tape.

2. Extend into jambs of openings and seal corners with tape.

END OF SECTION 07 2500

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SECTION 07 4633 - PLASTIC SIDING

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 vinyl siding .
- B. Related Requirements:
 - 1. Section 06 1000 "Rough Carpentry" for wood furring, grounds, nailers, and blocking.
 - 2. Section 07 2500 "Weather Barriers" for weather-resistive barriers.

1.3 COORDINATION

- A. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site .

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 1. For vinyl siding, include VSI's official certification logo printed on Product Data.
- B. Samples for Initial Selection: For vinyl siding including related accessories.

1.6 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of vinyl siding .
- B. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.
 - 1. Build mockup of typical wall area as shown on Drawings.
 - 2. Build mockups for vinyl siding including accessories.
 - a. Size: 48 inches long by 60 inches high.

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- b. Include outside corner on one end of mockup and inside corner on other end.
- 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
- 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials under cover.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including cracking, fading, and deforming.
 - b. Deterioration of materials beyond normal weathering.
 - 2. Fading is defined as loss of color, after cleaning with product recommended by manufacturer, of more than 4 Hunter color-difference units as measured according to ASTM D 2244.
 - 3. Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

2.2 VINYL SIDING

- A. Vinyl Siding: Integrally colored product complying with ASTM D 3679.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Heartland Siding; a ProVia company, Hearttech or comparable product by one of the following:
 - a. CertainTeed Building Material Company
 - b. Ply Gem Industries, Inc.
- B. Horizontal Pattern: 8-inch exposure in plain, double, 4-inch.
- C. Horizontal Pattern: 10-inch exposure in plain, double, 5-inch.
- D. Texture: Wood grain.
- E. Color: Color 1 – Provia Hearttech Lifestyle Collection White, Color 2 – Provia Hearttech Signature Collection Nightfall
- F. Nominal Thickness: 0.044 inch.
- G. Minimum Profile Depth (Butt Thickness): 5/8 inch.

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2.3 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
 - 1. Provide accessories made from same material as matching color and texture of adjacent siding unless otherwise indicated.
- B. Vinyl Accessories: Integrally colored vinyl accessories complying with ASTM D 3679 except for wind-load resistance.
 - 1. Texture: Wood grain .
- C. Decorative Accessories: Provide the following vinyl decorative accessories as indicated:
 - 1. Corner posts.
 - 2. Door and window casings.
 - 3. Entrance and window head pediments.
 - 4. Moldings and trim.
- D. Colors for Decorative Accessories: As selected by Architect from manufacturer's full range of colors.
- E. Flashing: Provide aluminum flashing complying with Section 07 6200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.
 - 1. Finish for Aluminum Flashing: Siliconized polyester coating, same color as siding .
- F. Fasteners:
 - 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch into substrate.
 - 2. For fastening vinyl, use aluminum fasteners. Where fasteners are exposed to view, use prefinished aluminum fasteners in color to match item being fastened.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of vinyl siding and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Center nails in elongated nailing slots without binding siding to allow for thermal movement.
- B. Install vinyl siding and related accessories according to ASTM D 4756.

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1. Install fasteners for horizontal vinyl siding no more than 16 inches o.c.
 2. Install fasteners for vertical vinyl siding no more than 12 inches o.c.
- C. Install joint sealants as specified in Section 07 9200 "Joint Sealants" and to produce a weathertight installation.

3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 07 4633

SECTION 07 5419 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Mechanically fastened, polyvinyl chloride (PVC) roofing system.
 2. Vapor retarder.
 3. Roof insulation.
 4. Cover board.
 5. Walkways.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
1. Layout and thickness of insulation.
 2. Base flashings and membrane terminations.
 3. Flashing details at penetrations.
 4. Tapered insulation thickness and slopes.
 5. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
 6. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
 7. Tie-in with air barrier.
- C. Samples: For the following products:
1. Roof membrane and flashing, of color required.
 2. Walkway pads or rolls, of color required.
- D. Wind Uplift Resistance Submittal: The roofing system must be designed using fastening patterns and materials equivalent to an FM 1-75 tested assembly, with the exception of the EPS crickets and polyethylene vapor barrier. Compliance with an FM 1-75 tested assembly must be verified via manufacturer in a manufacturer's certification letter authored by manufacturer's technical representative and provided at time of submittals. The certification will include a Roofnav # and state that a polyethylene vapor barrier is excluded from the tested assembly.

1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer Certificates:
1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of compliance with performance requirements.
 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- B. Product Test Reports: For roof membrane and insulation, tests performed by independent qualified testing agency indicating compliance with specified requirements.
- C. Research reports.
- D. Field Test Reports:

1. Concrete internal relative humidity test reports.
2. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.

E. Field quality-control reports.

F. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. This will be a No Dollar Limit, non-prorated warranty.

1. Warranty Period: 20 years from date of Substantial Completion.
2. Wind speed warranty: 74 mph measured at height of roof deck.
3. Ponding water is not a warranty exclusion.
4. Manufacturer will not require that owner pays for and/or files regular inspections to keep warranty active.

B. Special Project Warranty: Roofing Installer's warranty, on warranty form at end of this Section, signed by roofing Installer, covering Work of this Section, in which roofing Installer agrees to repair or replace components of roofing that fail in materials or workmanship within the following warranty period:

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accelerated Weathering: Roof membrane shall withstand 10,000 hours of exposure when tested according to, ASTM G154.

B. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272/D4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.

C. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

D. FM Approvals' RoofNav Listing: Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system and shall be listed in FM Approvals' RoofNav for Class 1 or noncombustible construction, as applicable and excluding polyethylene vapor barrier. Identify materials with FM Approvals Certification markings.

1. Fire/Windstorm Classification: **Class 1A-75**
2. Hail-Resistance Rating: FM Global Property Loss Prevention Data Sheet 1-34 [**SH**]

E. ENERGY STAR Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

- F. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than **0.75** when tested according to CRRC-1.
- G. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- H. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.2 POLYVINYL CHLORIDE (PVC) ROOFING

- A. PVC Sheet: ASTM D4434/D4434M, Type III, fabric reinforced.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle SynTec Incorporated – Sure Flex PVC
 - b. Johns Manville; a Berkshire Hathaway company – JM PVC 60
 - c. Sika Sarnafil – Sikaplan MA 60 (**Basis of design**)
 - 2. Thickness: 60 mils, nominal
 - 3. Exposed Face Color: White.

2.3 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesives and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
- C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- D. Vapor Barrier: 6-10 mil polyethylene vapor barrier with min 3" sealed laps.
- E. Bonding Adhesive: Manufacturer's standard, compliant with local VOC regulations.
- F. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: ASTM C1289. Compliances: UL, WH or FM listed under Roofing Systems
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle SynTec Incorporated.
 - b. Johns Manville; a Berkshire Hathaway company.
 - c. Sarnatherm
 - 2. Thickness: Two layers of 2.6", equal to an R-30, minimum.
- B. Tapered Insulation: Provide factory-tapered insulation boards.
 - 1. Material: Match roof insulation.
 - 2. Minimum Thickness: 1/4 inch.
 - 3. Slope:

- a. Roof Field: ¼" inch per foot Insert slope unless otherwise indicated on Drawings.
- b. Saddles and Crickets: ½" inch per foot unless otherwise indicated on Drawings.
- c. As needed to attain a min net ¼" slope throughout.

2.5 INSULATION ACCESSORIES

- A. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.
- B. Cover Board: ASTM C1177/C1177M, glass-mat, water-resistant gypsum board.
 1. Approved product: Dens Deck by GP.
 2. Thickness: 1/2 inch.
 3. Width: 4'
 4. Length: 8'
 5. No substitutions allowed.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick and acceptable to roofing system manufacturer.
 1. Size: Approximately 36 by 60 inches.
 2. Color: Grey
 3. Basis of design: Sarnatred by Sarnafil

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 1. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 05 3100 "Steel Decking."

3.2 PREPARATION

- A. Perform fastener-pullout tests according to roof system manufacturer's written instructions.
 1. Submit test result within 24 hours of performing tests.
 - a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 INSTALLATION OF ROOFING, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions, listed roof assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Coordinate installation and transition of roofing system component serving as an air barrier with specified wall air barrier.

3.4 INSTALLATION OF INSULATION

- A. Coordinate installing membrane roofing system components, so insulation is not exposed to precipitation or left exposed at the end of the workday.

- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- F. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.

3.5 INSTALLATION OF COVER BOARDS

- A. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction.
 - 1. Trim cover board neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - 2. At internal roof drains, conform to slope of drain sump.
 - a. Trim cover board so that water flow is unrestricted.
 - 3. Cut and fit cover board tight to nailers, projections, and penetrations.
 - 4. Mechanically attached cover board using a minimum of (6) #12 screws and board plates/ 4 x 8 sheet.
- B. Install slip sheet over cover board and immediately beneath roof membrane.

3.6 INSTALLATION OF MECHANICALLY FASTENED ROOF MEMBRANE

- A. Mechanically fasten roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll roof membrane and allow to relax before installing.
- C. For in-splice attachment, install roof membrane with long dimension perpendicular to steel roof deck flutes.
- D. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- E. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- F. Mechanically fasten or adhere roof membrane securely at terminations, penetrations, and perimeter of roofing.
- G. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- H. In-Seam Attachment: Secure one edge of PVC sheet using fastening plates or metal battens centered within seam, and mechanically fasten PVC sheet to roof deck.
- I. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
 - 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

- J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.7 INSTALLATION OF BASE FLASHING

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 INSTALLATION OF WALKWAYS

- A. Flexible Walkways: Install walkway products according to manufacturer's written instructions.
 - 1. Install flexible walkways at the following locations:
 - a. Perimeter of each rooftop unit.
 - b. Between each rooftop unit location, creating a continuous path connecting rooftop unit locations.
 - c. Between each roof hatch and each rooftop unit location or path connecting rooftop unit locations.
 - d. Top and bottom of each roof access ladder.
 - e. Between each roof access ladder and each rooftop unit location or path connecting rooftop unit locations.
 - f. Locations indicated on Drawings.
 - g. As required by roof membrane manufacturer's warranty requirements.
 - 2. Provide 6-inch clearance between adjoining pads.
 - 3. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 5419

SECTION 07 6200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formed low-slope roof sheet metal fabrications.
 - 2. Formed wall sheet metal fabrications.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
 - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Include details for forming, including profiles, shapes, seams, and dimensions.
 - 5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 6. Include details of termination points and assemblies.
 - 7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
 - 8. Include details of roof-penetration flashing.
 - 9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, flashings, and counterflashings.
- C. Samples: For each exposed product and for each color and texture specified, 12 inches long by actual width.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates:
- B. Evaluation Reports:
- C. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance data.
- B. Special warranty.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: 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.

1.7 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. 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, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. 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. FM Approvals Listing: Manufacture and install copings roof edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-75. Identify materials with name of fabricator and design approved by FM Approvals.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent 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: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet in accordance with ASTM A653/A653M, G90 coating designation; prepainted by coil-coating process to comply with ASTM A755/A755M.
1. Exposed Coil-Coated Finish:
 - a. 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.
 2. Color: As selected by Architect from manufacturer's full range.
 3. 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.
- C. Lead Sheet: ASTM B749 lead sheet.
- D. Zinc Sheet: Electrolytic, 99 percent pure zinc alloyed with 1 percent titanium and copy.
1. Finish: Bright rolled

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Synthetic Underlayment: Laminated or reinforced, woven polyethylene or polypropylene, synthetic roofing underlayment; bitumen free; slip resistant; suitable for high temperatures over 220 deg F; and complying with physical requirements of ASTM D226/D226M for Type I and Type II felts.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Atlas Molded Products; a Division of Atlas Roofing Corporation.

- b. [Intertape Polymer Group.](#)
 - c. [Kirsch Building Products, LLC.](#)
 - d. [SDP Advanced Polymer Products Inc.](#)
- C. Self-Adhering, High-Temperature Sheet Underlayment: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer in accordance with underlayment manufacturer's written instructions.
- 1. [Manufacturers:](#) Subject to compliance with requirements, provide products by one of the following:
 - a. [Carlisle WIP Products; a brand of Carlisle Construction Materials.](#)
 - b. [GCP Applied Technologies Inc.](#)
 - c. [Henry Company.](#)
 - d. [Metal-Fab Manufacturing, a Drexel Metals Company.](#)
 - e. [Owens Corning.](#)
 - f. [Protecto Wrap Company.](#)
 - g. [SDP Advanced Polymer Products Inc.](#)
 - 2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F or lower.
- D. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

2.4 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, solder, 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 or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
- 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: 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.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel in accordance with ASTM A153/A153M or ASTM F2329.
- C. Solder:
- 1. For Zinc-Coated (Galvanized) Steel: ASTM B32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.
- D. 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.
- E. 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.
- F. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Bituminous Coating: Cold-applied asphalt emulsion in accordance with ASTM D1187/D1187M.
- H. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.

2.5 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 shop to greatest extent possible.
 - 2. 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.
 - 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
 - 4. 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.
 - 5. 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 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. 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.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- G. Seams:
 - 1. Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 2. Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

- A. Downspouts: Fabricate open-face downspouts to dimensions indicated on Drawings, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Downspout to kick water back before open face.
- B. Gutters: Fabricate gutters to dimensions indicated on Drawings.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long sections. Furnish with 6-inch-wide, joint cover plates. Shop fabricate interior and exterior corners.
 - 1. Fabricate from the following materials:
 - a. Prefinished Galvanized Steel: 0.028 inch thick.
- B. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 - 1. Fabricate from the following materials:
 - a. Prefinished Galvanized Steel: 0.040 inch (20 ga) thick.

- C. Base Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch thick.
- D. Counterflashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.022 inch thick.
- E. Roof-Penetration Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch thick.
- F. Roof-Drain Flashing: Fabricate from the following materials:
 - 1. Stainless Steel: 0.0156 inch thick.

2.8 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch-long, but not exceeding 12-foot-long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch-high, end dams. Fabricate from the following materials:
 - 1. Zinc: 0.040 inch thick
- B. 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. Prefinished Galvanized Steel: 0.028 inch thick.
- C. Wall Expansion-Joint Cover: Fabricate from the following materials:
 - 1. Prefinished Galvanized Steel: 0.028 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION OF UNDERLAYMENT

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lap joints not less than 2 inches.
- B. Synthetic Underlayment: Install synthetic underlayment, wrinkle free, in accordance with manufacturers' written instructions, and using adhesive where possible to minimize use of mechanical fasteners under sheet metal.
 - 1. Lap horizontal joints not less than 4 inches.
 - 2. Lap end joints not less than 12 inches.
- C. Self-Adhering, High-Temperature Sheet Underlayment:
 - 1. Install self-adhering, high-temperature sheet underlayment; wrinkle free.
 - 2. Prime substrate if recommended by underlayment manufacturer.
 - 3. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures.
 - 4. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses.
 - 5. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller.
 - 6. Roll laps and edges with roller.
 - 7. Cover underlayment within 14 days.

3.2 INSTALLATION, 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, solder, 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 solder welds 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. Space individual cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 6. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 7. Do not field cut sheet metal flashing and trim by torch.
- 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.
1. Coat concealed side of sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
1. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 2. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 3. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- 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.
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter.

3.3 INSTALLATION OF ROOF-DRAINAGE SYSTEM

- A. Install sheet metal roof-drainage items to produce complete roof-drainage system in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated on Drawings. Lap joints minimum of 4 inches in direction of water flow.

3.4 INSTALLATION OF ROOF FLASHINGS

- A. Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard.
1. Provide concealed fasteners where possible, and set units true to line, levels, and slopes.
 2. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing:
1. Install roof edge flashings in accordance with ANSI/SPRI/FM 4435/ES-1.
 2. Anchor to resist uplift and outward forces in accordance with recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.

3. Anchor to resist uplift and outward forces in accordance with recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for FM Approvals' listing for required windstorm classification.
- C. Copings:
1. Install roof edge flashings in accordance with ANSI/SPRI/FM 4435/ES-1.
 2. Anchor to resist uplift and outward forces in accordance with recommendations in cited sheet metal standard unless otherwise indicated.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing.
1. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
 2. Extend counterflashing 4 inches over base flashing.
 3. Lap counterflashing joints minimum of 4 inches.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.5 INSTALLATION OF WALL FLASHINGS

- 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 Insert dimension beyond wall openings.

3.6 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.7 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.

3.8 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. 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 07 6200

SECTION 07 7123 – MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To:
 - 1. Furnish and install gutters and downspouts as described in Contract Documents.
- B. Related Requirements:
 - 1. Section 07 6200: 'Sheet Metal Flashing and Trim'
 - 2. Section 07 9200: 'Joint Sealants', for quality of sealants for joints.

1.2 REFERENCES

- A. Reference Standard:
 - 1. Sheet Metal & Air Conditioning Contractors National Association Inc:
 - a. SMACNA Architectural Sheet Metal Manual, (7th edition 2012).

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings: Show gutter cross-section, mounting method, gauge of metal, expansion joint design and locations, and downspout locations minimum.

PART 2 - PRODUCTS

2.1 ASSEMBLIES

- A. Manufacturers:
 - 1. Type Two Acceptable Manufacturers of Metal:
 - a. ATAS Aluminum Products, Allentown, PA www.atas.com.
 - b. CMG – Coated Metals Group, Denver, CO www.cmgmetals.com.
 - c. Fabral, Jackson, GA www.fabral.com.
 - d. Firestone Metal Products, Anoka, MN www.unaclad.com.
 - e. MBCI, Houston, TX www.mbc.com.
 - f. Metal Sales Manufacturing Corp, Sellersburg, IN www.mtlsales.com.
 - g. O'Neal Flat Rolled Metals (member of O'Neal Industries), Brighton, CO www.ofrmetals.com.
 - h. Petersen Aluminum Corp, Elk Grove, IL www.pac-clad.com.
 - i. Reynolds Metals Company, Richmond, VA www.rmc.com.
 - j. Ryerson, Chicago, IL www.ryerson.com.
 - k. Equal as approved by Architect before installation. See Section 01 6200.
- B. Materials
 - 1. Steel:
 - a. Downspouts: Open-face rectangular, 26 ga 0.0217 inches -galvanized steel including necessary elbows.
 - b. Gutters: 24 ga 0.0276 inches galvanized steel.
 - c. Brackets: 22 ga 0.0336 inches galvanized steel or 26 ga 0.0217 inches double-hemmed minimum.
 - 2. Screws, Bolts, Nails, And Accessory Fasteners: Non-corrosive and of strength and type consistent with function.
 - 3. Downspouts, gutters, brackets, fasteners, and accessories shall be compatible material.
- C. Fabrication:
 - 1. Fabricate in accordance with SMACNA Architectural Manual recommendations, where applicable.
 - 2. Cross-sectional configuration of gutter shall be Style A, (Page 1.13 6th Edition) of SMACNA Architectural Manual.
 - 3. Form accurately to details.
 - 4. Profiles, bends, and intersections shall be even and true to line.
- D. Finishes:
 - 1. Metal exposed to view shall have face coating of polyvinylidene Fluoride (PVF₂) Resin-base finish (Kynar 500 or Hylar 5000) containing seventy (70) percent minimum PVF₂ in resin portion of formula.

- a. Thermo-cured two (2) coat system consisting of corrosion inhibiting epoxy primer and top coat factory applied over properly pre-treated metal.
 - b. Reverse side coating shall be thermo-cured system consisting of corrosion inhibiting epoxy primer applied over properly pre-treated metal.
2. Color as selected by Architect from Manufacturer's standard colors.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection Of In-Place Conditions:
 1. Before starting work, verify governing dimensions at building. Inspect for conditions that would prevent installation of specified system. Do not install over improper conditions.
 2. Insulate work from fascia as necessary to prevent electrolytic action.

3.2 INSTALLATION

- A. Allow no more than 40 feet (12 meters) between downspouts. Lap joints in downspouts 1-1/2 inches minimum in direction of water flow.
- B. Furnish and install outlet tubes and gutter ends where required. Furnish and install expansion joints in runs exceeding 50 feet and in runs that are restrained at both ends. Lap other joints in gutter one inch (25 mm) minimum, apply sealant in lap, and stainless steel rivet one inch on center maximum.

3.3 FIELD QUALITY CONTROL

- A. Field Tests:
 1. At completion of this work, block downspouts and flood gutters.
 2. Notify Architect two (2) working days before testing.
 3. Repair leaks and adjust for proper drainage.

3.4 CLEANING

- A. Leave metals clean and free of defects, stains, and damaged finish.

END OF SECTION 07 7123

SECTION 07 9200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Acoustical joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Preconstruction compatibility and adhesion test reports.
- C. Preconstruction field-adhesion test reports.
- D. Field-adhesion test reports.
- E. Warranties.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.
- B. Preinstallation Conference: Conduct conference at Project site.

1.5 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 - 1. Suitability for Immersion in Liquids: Where sealants are indicated for use for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- B. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.2 SILICONE JOINT SEALANTS

- A. Neutral-Curing Silicone Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Building Systems, Sonneborn, Sonolastic 150.
 - b. Dow Corning Corporation, 791.
 - c. Polymeric Systems, Inc., PSI-631
 - d. Tremco Incorporated, Spectrem 2.
 - 2. Type: Single component (S).
 - 3. Grade: nonsag (NS).
 - 4. Class: 25.
 - 5. Uses Related to Exposure: Nontraffic (NT).
- B. Mildew-Resistant Silicone Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Building Systems, Sonneborn, Omniplus or Sonolastic 150.
 - b. Dow Corning Corporation, 786 Mildew Resistant.
 - c. GE Advanced Materials - Silicones, Sanitary 1700.
 - d. Tremco Incorporated, Tremsil 600 White.
 - 2. Type: Single component (S).
 - 3. Grade: nonsag (NS).
 - 4. Class: 25.
- C. Uses Related to Exposure: Nontraffic (NT).

2.3 URETHANE JOINT SEALANTS

- A. Single-Component Nonsag Urethane Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Building Systems, Sonneborn, NP1.
 - b. Mameco International, Vulkem 245.
 - c. Pecora Corporation, Dynatrol I.
 - d. Tremco Incorporated, DyMonic.
 - 2. Type: Single-component (S).
 - 3. Grade: Nonsag (NS).
 - 4. Class: 25.
 - 5. Uses Related to Exposure: Nontraffic (NT).
- B. Multi-Component Pourable Urethane Joint Sealant: ASTM C 920.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. BASF Building Systems, Sonneborn, ChemRex, Inc., SL2.
- b. Mameco International, Vulkem 921.
- c. Pacific Polymers International, Inc., Elasto-Thane 920 Pourable.
- d. Sika Corporation; Construction Products Division, Sikaflex – 2c SL.
2. Type: multicomponent (M).
3. Grade: Pourable (P).
4. Class: 25.
5. Uses Related to Exposure: Traffic (T) and Nontraffic (NT).

2.4 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Building Systems, Sonneborn, ChemRex, Inc., Sonolac.
 - b. Pecora Corporation, AC-20.
 - c. Tremco Incorporated, Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Pecora Corporation, AC-20 FTR .
 - b. USG Corporation, Sheetrock Acoustical Sealant.

2.6 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.7 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.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
1. Remove laitance and form-release agents from concrete.
 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant

manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. 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.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 - 1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
 - b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
 - 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.4 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior and interior joints in horizontal traffic surfaces.
 - 1. Joint Locations:
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Tile control and expansion joints.
 - c. Joints between different materials listed above.
 - d. Other joints as indicated.
 - 2. Joint Sealant: Multi-Component Pourable Urethane.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Joints between tilt-up concrete panels.
 - c. Other joints as indicated.
 - 2. Joint Sealant: Single-Component Nonsag Urethane.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- C. Joint-Sealant Application: Interior joints in field-painted vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of interior unit masonry, concrete, walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
 - e. Other joints as indicated.
 - 2. Joint Sealant: Latex.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- D. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated.
 - 2. Joint Sealant: Mildew Resistant Silicone.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Location:
 - a. Acoustical joints where indicated.
 - b. Other joints as indicated.
 - 2. Joint Sealant: Acoustical.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 07 9200

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SECTION 08 5213 - ALUMINUM-CLAD WOOD DOUBLE HUNG WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum-clad wood double hung windows.

1.2 RELATED SECTIONS

- A. Section 07 2500 - Weather Barriers: Water-resistant barrier.
- B. Section 07 9200 - Joint Sealants: Sealants and caulking.

1.3 PERFORMANCE REQUIREMENTS

- A. Windows shall be Hallmark certified to a rating of LC-30 in accordance with ANSI/AAMA/WDMA 101/I.S.2/A440-08 or ANSI/AAMA/WDMA 101/I.S.2/A440-11.
- B. Window Unit Air Leakage, ASTM E 283, 1.57 psf (25 mph): 0.05 cfm per square foot of frame or less.
- C. Window Unit Water Penetration: No water penetration through window unit when tested in accordance with ASTM E 547, under static pressure of 7.5 psf (52 mph) after 4 cycles of 5 minutes each, with water being applied at a rate of 5 gallons per hour per square foot.

1.4 SUBMITTALS

- A. Comply with Division 1 requirements.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, construction, component connections and locations, anchorage methods and locations, hardware locations, and installation details.
- D. Samples: Submit full-size or partial full-size sample of window illustrating glazing system, quality of construction, and color of finish.
- E. Warranty: Submit manufacturer's standard warranty.

1.6 QUALITY ASSURANCE

- A. Mockup:
 - 1. Provide sample installation for field testing window performance requirements and to determine acceptability of window installation methods.
 - 2. Approved mockup shall represent minimum quality required for the Work.
 - 3. Approved mockup shall [not] remain in place within the Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site undamaged in manufacturer's or sales branch's original, unopened containers and packaging, with labels clearly identifying manufacturer and product name. Include installation instructions.
- B. Storage: Store materials in an upright position, off ground, under cover, and protected from weather, direct sunlight, and construction activities.
- C. Handling: Protect materials and finish during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Pella
- B. Andersen
- C. Marvin
- D. Kolbe

2.2 ALUMINUM-CLAD WOOD DOUBLE HUNG WINDOWS

- A. Frame:
 - 1. Select woods, water-repellent, preservative-treated with EnduraGuard® in accordance with WDMA I.S.-4. EnduraGuard includes water-repellency, three active fungicides and an insecticide applied to the frame.
 - 2. Interior Exposed Surfaces: Pine.
 - 3. Exterior Surfaces: Clad with aluminum.
 - 4. Overall Frame Depth: 5 inches (127 mm).
- C. Sash:
 - 1. Select woods, water water-repellent, preservative-treated with EnduraGuard in accordance with WDMA I.S.-4. EnduraGuard includes water-repellency, three active fungicides and an insecticide applied to the sash.
 - 2. Interior Exposed Surfaces: Pine.
 - 3. Exterior Surfaces: Clad with aluminum.
 - 4. Corners: Mortised and tenoned, glued and secured with metal fasteners.
- D. Weather Stripping:
 - 1. Dual weather stripping.
 - 2. Continuous, flexible, Santoprene material in dual-durometer design.
 - 3. Units shall have welded corners, compressed between frame and sash for positive seal on all 4 sides.
 - 4. Secondary PVC leaf-type weather strip between sash and frame for positive seals on all 4 sides.

2.3 GLAZING

- A. Glazing:
 - 1. Float Glass: ASTM C 1036, Quality 1.
 - a. Tempered Glass: ASTM C 1048, per code.
 - 2. Type: Silicone-glazed 11/16-inch dual-seal, insulating glass, multi-layer Low-E coated with argon

2.5 HARDWARE

- A. Balances:
 - 1. Block-and-tackle balances.
 - 2. Balances are attached to frame and connected to sash with polyester cord.
- B. Sash Lifts:
 - 1. Sash lift furnished for field installation.
 - 2. One sash lift on units with frame width less than 37 inches, 2 sash lifts on units with frame width greater than 37 inches.

2.6 TOLERANCES

- A. Windows shall accommodate the following opening tolerances:
 - 1. Vertical Dimensions Between High and Low Points: Plus 1/4 inch, minus 0 inch.
 - 2. Width Dimensions: Plus 1/4 inch, minus 0 inch.
 - 3. Building Columns or Masonry Openings: Plus or minus 1/4 inch from plumb.

2.7 FINISH

- A. Exterior Finish System:
 - 1. Exterior aluminum surfaces shall be finished with the following multi-stage system:
 - a. Clean and etch aluminum surface of oxides.
 - b. Pre-treat with conversion coating.

- c. Top coat with baked-on polyester enamel.
2. Performance Requirements: Exterior aluminum finishes shall meet or exceed all performance requirements of AAMA 2603 and the following performance requirements of AAMA 2605:
 - a. Dry Film Hardness: Eagle Turquoise Pencil, H minimum.
 - b. Film Adhesion: 1 mm crosshatch, dry, wet, boiling water.
 - c. Impact Resistance: 1/10-inch distortion, no film removal.
 - d. Chemical Resistance: 10 percent Muriatic acid, 15 minutes. Mortar pat test, 24 hours.
 - e. Detergent Resistance: 3 percent at 100 degrees F, 72 hours.
 - f. Corrosion Resistance: ASTM G85-A5, 2000 hours. Humidity, 3,000 hours. Salt spray exceeds 3,000 hours.

B. Interior Finish: Unfinished, ready for site finishing

2.8 INSECT SCREENS

- A. General: Fabricate insect screens to integrate with window frame. Provide screen for each operable exterior sash. Screen wickets are not permitted.
 1. Type and Location: Full, Outside for double hung sashes.
- B. Aluminum Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 1. Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet.
 2. Finish for Interior Screens: Baked-on organic coating in color selected by Architect from manufacturer's full range.
 3. Finish for Exterior Screens: Baked-on organic coating in color selected by Architect from manufacturer's full range.
- C. Glass-Fiber Mesh Fabric: 18-by-14 or 18-by-16 mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration. Comply with ASTM D 3656/D 3656M.
 1. Mesh Color: Color selected by Architect from manufacturer's full range.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive windows. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Install windows in accordance with manufacturer's instructions and approved shop drawings.
- B. Install windows to be weather-tight and freely operating.
- C. Maintain alignment with adjacent work.
- D. Secure assembly to framed openings, plumb and square, without distortion.
- E. Integrate window system installation with exterior water-resistant barrier using flashing/sealant tape. Apply and integrate flashing/sealant tape with water-resistant barrier using watershed principles in accordance with window manufacturer's instructions.
- F. Place interior seal around window perimeter to maintain continuity of building thermal and air barrier using backer rod and sealant or insulating-foam sealant.
- G. Seal window to exterior wall cladding with sealant and related backing materials at perimeter of assembly.
- H. Leave windows closed and locked.

3.3 FIELD QUALITY CONTROL

- A. Field Testing: Field water testing shall be conducted in accordance with ASTM E1105 Test Procedure B. The test pressure shall be based on the maximum positive components and cladding design pressure. Utilizing the AAMA 502 field test reduction, the water test pressure is 10% of the maximum positive design pressure.

3.4 CLEANING

- A. Clean window frames and glass in accordance with Division 1 requirements.
- B. Do not use harsh cleaning materials or methods that would damage finish.
- C. Remove labels and visible markings.

3.5 PROTECTION

- A. Protect installed windows to ensure that, except for normal weathering, windows will be without damage or deterioration at time of substantial completion.

END OF SECTION

Siding and Window Replacement
Pulling Courts
Idaho State University
Pocatello, Idaho

SECTION 08 9119 - FIXED LOUVERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fixed extruded-aluminum louvers.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.
- B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.
- C. Samples: For each type of metal finish required.

1.3 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 FIXED EXTRUDED-ALUMINUM LOUVERS

- A. Horizontal Drainable-Blade Louver, Extruded Aluminum Louver:
 - 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. Architectural Louvers; Harray, LLC
 - b. Industrial Louvers Inc.
 - 2. Louver Depth: 4 inches.
 - 3. Frame and Blade Nominal Thickness: Not less than 0.060 inch for blades and 0.080 inch for frames.
 - 4. Mullion Type: Exposed.
 - 5. Louver Performance Ratings:
 - a. Free Area: Not less than 7.5 sq. ft. for 48-inch-wide by 48-inch-high louver.
 - b. Point of Beginning Water Penetration: Not less than 900 fpm.
 - 6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.2 MATERIALS

- A. Aluminum Extrusions: ASTM B221, Alloy 6063-T5, T-52, or T6.
- B. Aluminum Sheet: ASTM B209, Alloy 3003 or 5005, with temper as required for forming, or as otherwise recommended by metal producer for required finish.
- C. Fasteners: Use types and sizes to suit unit installation conditions.
 - 1. Use hex-head or Phillips pan-head screws for exposed fasteners unless otherwise indicated.
 - 2. For fastening aluminum, use aluminum or 300 series stainless steel fasteners.
 - 3. For fastening galvanized steel, use hot-dip-galvanized-steel or 300 series stainless steel fasteners.

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Pulling Courts
Idaho State University
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4. For fastening stainless steel, use 300 series stainless steel fasteners.
5. For color-finished louvers, use fasteners with heads that match color of louvers.

- D. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, fabricated from stainless steel components, with allowable load or strength design capacities calculated according to ICC-ES AC193 and ACI 318 greater than or equal to the design load, as determined by testing according to ASTM E488/E488M conducted by a qualified testing agency.
- E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.3 FABRICATION

- A. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.
- B. Join frame members to each other and to fixed louver blades with fillet welds, threaded fasteners, or both, as standard with louver manufacturer unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

2.4 ALUMINUM FINISHES

- A. Superior-Performance Organic Finish, Three-Coat PVDF: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.
1. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- D. Protect unpainted galvanized- and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.

3.2 ADJUSTING

- A. Restore louvers damaged during installation and construction, so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.

END OF SECTION 08 9119

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SECTION 09 2900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Texture finishes.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples:
 - 1. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. American Gypsum.
 - 2. CertainTeed Corp.
 - 3. Georgia-Pacific Gypsum LLC.
 - 4. National Gypsum Company.
 - 5. PABCO Gypsum.
 - 6. USG Corporation.
- B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch.
 - 2. Long Edges: Tapered.

2.3 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
- B. Aluminum Trim: ASTM B 221, Alloy 6063-T5.

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.

2.5 AUXILIARY MATERIALS

A. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing).

D. Acoustical Joint Sealant: ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings as demonstrated by testing according to ASTM E 90.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant.

b. Grabber Construction Products; Acoustical Sealant GSC.

c. Pecora Corporation; AC-20 FTR.

d. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.

e. USG Corporation; SHEETROCK Acoustical Sealant.

E. Thermal Insulation: As specified in Section 07 2100 "Thermal Insulation."

F. Vapor Retarder: As specified in Section 07 2100 "Thermal Insulation."

2.6 TEXTURE FINISHES

A. Orange Peel.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

A. Comply with ASTM C 840.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. Install 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.

1. Interior Trim: Install in the following locations:

a. Cornerbead: Use at outside corners, unless otherwise indicated.

b. Bullnose Bead: Use where indicated.

c. LC-Bead: Use at exposed panel edges.

d. L-Bead: Use where indicated.

e. U-Bead: Use at exposed panel edges.

f. Curved-Edge Cornerbead: Use at curved openings.

2. Aluminum Trim: Install in locations indicated on Drawings.

3. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

E. Prefill open joints and damaged surface areas.

- F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 2: Panels that are substrate for tile.
 - 3. Level 3: Panels that are substrates for wall coverings and wall panels.
 - 4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 09 9123 "Painting."
 - 5. Level 5: In areas with oblique lighting such as corridors with a window at the end, lobby walls that end at windows and on wall surfaces to receive deep tone paints or satin or glossier paint coatings.
 - a. Primer and its application to surfaces are specified in Section 09 9123 "Painting."
- H. Texture Finish Application: Produce a uniform texture matching approved mockup and free of starved spots or other evidence of thin application or of application patterns.
- I. Protect adjacent surfaces from drywall compound and texture finishes and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- J. Remove and replace panels that are wet, moisture damaged, and mold damaged.

3.2 FIELD QUALITY CONTROL

- A. Above-Ceiling Observation: Architect will conduct an above-ceiling observation before installing gypsum board ceilings and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.
 - 1. Notify Architect seven days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
 - 2. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:
 - a. Installation of 80 percent of lighting fixtures, powered for operation.
 - b. Installation, insulation, and leak and pressure testing of water piping systems.
 - c. Installation of air-duct systems.
 - d. Installation of air devices.
 - e. Installation of mechanical system control-air tubing.
 - f. Installation of ceiling support framing.

END OF SECTION 09 2900

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SECTION 09 9123 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes painting work, interior and exterior. Work Includes, but is not limited to painting or finishing the following:
1. Exterior steel.
 2. Metal doors, metal door frames, grilles and frames.
 3. Exterior metal mechanical units, grilles and louvers.
 4. Interior walls.
 5. Interior wood windows.
 6. Exterior exposed metal flashing.
 7. Work includes field painting of exposed bare and covered pipes (including color coding), and of hangers, exposed steel and iron work, plug mold, electric panels, except as otherwise indicated.
 8. Drywall preparation.
- B. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- C. Surfaces to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint all exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from manufacturer's full range of colors and finishes. Multiple colors will be selected by the Architect for any type of paint system. If colors are not indicated on the drawings, provide for a minimum of 20 percent of the walls to be an accent color.
1. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
- D. Following categories of work are not included as part of field-applied finish work:
1. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) metal toilet enclosures, pre-finished partition systems, architectural woodwork and casework, elevator entrance doors and frames, elevator equipment, and finished mechanical and electrical equipment, including light fixtures, switchgear and distribution cabinets.
 2. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces and duct shafts.
 3. Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.
 4. Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.
 5. Labels: Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.
- E. Related Sections:
1. Shop Primers: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.
 - a. Unless otherwise specified, shop priming of fabricated components such as architectural woodwork, wood casework and shop-fabricated or factory-built mechanical and electrical equipment or accessories is included under other sections of these specifications.
- F. Related Documents: Drawings and Division-1 Specification sections, apply to work of this section.

1.2 SUBMITTALS

- A. **Product Data:** Submit manufacturer's technical information including Paint label analysis and application instructions for each material proposed for use.
- B. **Samples:** Prior to beginning work, review Finish Schedule for colors to be painted. Use representative colors when preparing samples for review. Submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.
 - 1. On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved.
 - 2. On actual wood surfaces, provide two 4" x 8" samples of natural and stained wood finish. Label and identify each as to location and application.
 - 3. On actual wall surfaces and other exterior and interior building components, duplicate painted finishes of prepared samples. Provide full-coat finish samples on at least 100 sq. ft. of surface, or as directed, until required sheen, color and texture is obtained; simulate finished lighting conditions for review of in-place work.
 - a. Final acceptance of colors will be from samples applied on the job.

1.3 QUALITY ASSURANCE

- A. **Single Source Responsibility:** Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer and use only within recommended limits.
- B. **Coordination of Work:** Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

1.4 DELIVERY AND STORAGE

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:
 - 1. Name or title of material.
 - 2. Fed. Spec. number, if applicable.
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Manufacturer's name.
 - 5. Contents by volume, for major pigment and vehicle constituents.
 - 6. Thinning instructions.
 - 7. Application instructions.
 - 8. Color name and number.
- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

1.5 PROJECT CONDITIONS

- A. Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50 deg. F and 90 deg. F, unless otherwise permitted by paint manufacturer's printed instructions.
- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 deg. F and 95 deg. F, unless otherwise permitted by paint manufacturer's printed instructions.
- C. Do not paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.
 - 1. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

- D. Determine moisture content of surfaces to be painted by performing appropriate tests using a commercially available moisture meter. Apply paint only when surfaces are within limits specified by the paint manufacturer's printed instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Approved Manufacturers:
 - 1. PPG Industries, Pittsburgh Paints (Pittsburgh).
 - 2. Pratt and Lambert (P & L).
 - 3. The Sherwin-Williams Company (S-W).
 - 4. Benjamin Moore & Co.

2.2 MATERIALS

- A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Proprietary names used to designate color or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.
- C. Federal Specifications establish minimum acceptable quality for paint materials. Provide written certification from paint manufacturer that materials provided meet or exceed these minimums.
- D. Manufacturer's products which comply with coating qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to Architect. Furnish material data and manufacturer's certificate of performance to Architect for any proposed substitutions.
- E. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.
- F. Lead content in pigment, if any, is limited to contain not more than 0.06% lead, as lead metal based on the total non-volatile (dry-film) of paint by weight.
 - 1. This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors which are readily accessible to children under seven years of age.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

3.2 PREPARATION

- A. General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

- B. Barrier Coats: Provide barrier coats over incompatible primers or remove and re-prime as required. Notify Architect in writing of any anticipated problems in using the specified coating systems with substrates primed by others.
- C. Accessories Removal: Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.
- D. Surface Preparation: Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces.
- E. Cementitious Materials: Prepare cementitious surfaces to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.
 - 1. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.
 - 2. Clean concrete floor surfaces scheduled to be painted with a commercial solution or muriatic acid, or other etching cleaner. Flush floor with clean water to neutralize acid, and allow to dry before painting.
- F. Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
 - 1. Caulk fabrication joints in hollow metal door frames which paint application cannot bridge.
- G. Touch-up: Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.
- H. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.
- I. Wood: Clean wood surfaces to be painted of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, fry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.
 - 1. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling.
 - 2. When transparent finish is required, use spar varnish for backpriming.
 - 3. Apply penetrating oil finish in accordance with manufacturer's written instructions, including wood preparation, drying times, and application method.
- J. Materials Preparation:
 - 1. Mix and prepare painting materials in accordance with manufacturer's directions.
 - 2. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
 - 3. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

3.3 APPLICATION

- A. General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Paint colors, surface treatments, and finishes, are indicated in "schedules" of the contract documents.
 - 2. Provide finish coats which are compatible with prime paints used.
 - 3. Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to ensure that surfaces, including

- edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment.
 5. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
 6. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.
 7. Finish doors on tops, bottoms and side edges same as faces, unless otherwise indicated.
 8. Sand lightly between each succeeding enamel or varnish coat.
 9. Omit first coat (exterior faces) of surfaces which have been **shop-primed** and touch-up painted, unless otherwise indicated.
- B. **Scheduling Painting:** Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. **Re-coat Time:** Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
 2. **Minimum Coating Thickness:** Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.
- C. **Mechanical and Electrical Work:** Painting of mechanical and electrical work is limited to those items exposed to mechanical equipment rooms and in occupied spaces.
1. Mechanical items to be painted include, but are not limited to, the following:
 - a. Piping, pipe hangers, and supports.
 - b. Accessory items.
 2. Electrical items to be painted include, but are not limited to, the following:
 - a. Conduit and fittings and panels.
- D. **Prime Coats:** Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.
1. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.
- E. **Pigmented (Opaque) Finishes:** Completely cover to provide an opaque, smooth 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.
- F. **Completed Work:** Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

3.4 FIELD QUALITY CONTROL

- A. The right is reserved by Owner to invoke the following material testing procedure at any time, and any number of times during period of field painting:
1. Owner will engage services of an independent testing laboratory to sample paint being used. Samples of materials delivered to project site will be taken, identified and sealed, and certified in presence of Contractor.
 - a. Testing laboratory will perform appropriate tests for any or all of following characteristics: Abrasion resistance, apparent reflectivity, flexibility, washability, absorption, accelerated weathering, dry opacity, accelerated yellowness, recoating, skinning, color retention, alkali resistance and quantitative materials analysis.
 - b. If test results show that material being used does not comply with specified requirements, Contractor may be directed to stop painting work, and remove non-complying paint; pay for testing; repaint surfaces coated with rejected paint; remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are non-compatible.

3.5 CLEAN-UP AND PROTECTION

- A. Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.
 - 1. Upon completion of painting work, clean window glass and other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- B. Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
 - 1. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
 - 2. At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.
- C. Extra Stock: Deliver stock or maintenance materials to Owner. Furnish maintenance material matching products installed, packaged with protective covering for storage and identified with appropriate labels.
 - 1. Paint: Furnish not less than one (1) full gallon for each color and type of paint installed.

3.6 EXTERIOR PAINT SCHEDULE

- A. General: Provide the following paint systems for the various substrates as indicated below or equivalent system from approved manufacturers listed above.
- B. METAL (Misc. Iron, Ornamental Iron, Handrails, Ladders, Doors, etc.)
 - Sherwin-Williams - Alkyd Systems
 - 1st Coat: S-W Kem Kromik Universal Metal Primer, B50Z
 - Finish: Flat
 - Sheen: (Percent at 60 deg) less than 10%
 - Thickness: (Mils per coat) 6 - 8 wet - 3 - 4 dry.
 - 2nd Coat: S-W Industrial Enamel, B54Z Series
 - 3rd Coat: S-W Industrial Enamel, B54Z Series
 - Finish: Gloss
 - Sheen: (Percent at 60 deg) 75-85%
 - Thickness: (Mils per coat) 6.5 - 10 wet - 2.5 - 4 dry.
 - Benjamin Moore- Alkyd Systems
 - 1st Coat: B-M Super Spec HP Alkyd Metal Primer P14
 - Finish: Flat
 - Sheen: (Percent at 60 deg) 10% max
 - Thickness: (Mils per coat) 4.0 - 5.4 mils wet 1.9-2.6 mils dry.
 - 2nd Coat: B-M Super Spec HP Alkyd DTM Semi-Gloss P24
 - 3rd Coat: B-M Super Spec HP Alkyd DTM Semi-Gloss P24
 - Finish: Semi-Gloss
 - Sheen: (Percent at 60 deg) 45-55%
 - Thickness: (Mils per coat) 3.6 - 4.6 mils wet- 1.7 - 2.3 mils dry.
 - PPG - Alkyd Systems
 - 1st Coat: PPG Multiprime Low VOC Universal Primer 97-680.
 - Finish: Satin
 - Sheen: (Percent at 60 deg) less than 25.
 - Thickness: (Mils per coat) 5.6 - 7.4 wet; 3.0 - 4.0 dry.
 - 2nd Coat: PPG Speedhide Gloss Oil Enamels 6-282 Series.
 - 3rd Coat: PPG Speedhide Gloss Oil Enamels 6-282 Series
 - Finish: Gloss
 - Sheen: (Percent at 60 deg) 85-100
 - Thickness: 3.2 - 4.0 wet; 1.8 - 2.3 dry.
- C. WOODWORK (Painted)
 - Latex Systems
 - Semi-Gloss Finish
 - 1st Coat: B-M Sure Seal Interior/Exterior Primer 027 (3.8 mils wet 1.3 mils dry)
 - All Colors:

2nd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539
3rd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539
Finish: Semi-Gloss
Sheen: (Percent at 60 deg) 20-35%
Thickness: (Mils per coat) 4.3 wet- 1.8
dry.

3.7 INTERIOR PAINT SCHEDULE

A. General: Provide the following paint systems for the various substrates as indicated below or equivalent system from approved manufacturers listed above.

B. DRYWALL (Walls, Ceilings, Gypsum Board, Etc.)

Drywall Primer: Apply one coat on drywall surfaces prior to application of any 3-coat system indicated below.

Sheetrock First Coat by USG.
Prep Coat by Westpac Materials.
Level Coat by Magnum Products.
Equal as approved by Architect before bidding.

Sherwin-Williams - Vinyl Acrylic Systems

1st Coat: S-W Preprite 200 Latex Wall Primer, B28W200

Finish: Flat
Sheen: (Percent at 85 deg) 0-5%
Thickness: (Mils per coat) 4.3 wet - 1.2 dry.

2nd Coat: S-W ProMar 200 Latex Semi-Gloss, B31W200 Series

3rd Coat: S-W ProMar 200 Latex Semi-Gloss, B31W200 Series

Finish: Semi-Gloss
Sheen: (Percent at 60 deg) 25-35%
Thickness: (Mils per coat) 3.5 wet - 1.3 dry.

Benjamin Moore- Acrylic Copolymer Systems

1st Coat: Ultra Spec 500 Interior Primer/Sealer 534

Finish: Flat
Sheen: (Percent at 85 deg) 3-8%
Thickness: (Mils per coat) 4.3 wet- 1.8 dry.

2nd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539

3rd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539

Finish: Semi-Gloss
Sheen: (Percent at 60 deg) 20-35%
Thickness: (Mils per coat) 4.3 wet- 1.8
dry.

PPG - Vinyl Acrylic Systems

1st Coat: PPG Speedhide Interior Quick Drying Latex Sealer 6-2.

Finish: Primer
Sheen: (Percent at 60 deg) 2 - 6
Thickness: (Mils per coat) 3.6 - 4.5 wet; 1.0 - 1.3 dry

2nd Coat: PPG Speedhide Interior Semi-Gloss Latex 6-500 Series.

3rd Coat: PPG Speedhide Interior Semi-Gloss Latex 6-500 Series.

Finish: Semi-gloss
Sheen: (Percent at 60 deg) 50 - 60.
Thickness: (Mils per coat) 4.0 wet; 1.4 dry.

C. WOODWORK (Painted)

Latex Systems

Semi-Gloss Finish

1st Coat: B-M Sure Seal Interior/Exterior Primer 027 (3.8 mils wet 1.3 mils dry)

All Colors:

2nd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539

3rd Coat: B-M Ultra Spec 500 Latex Semi-Gloss 539

Finish: Semi-Gloss

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Sheen: (Percent at 60 deg) 20-35%
Thickness: (Mils per coat) 4.3 wet- 1.8
dry.

END OF SECTION 09 9123