A Reroof For
Idaho Transportation Department
New Meadows, Idaho

Project FM32005
New Meadows Maintenance Building
New Meadows, Idaho

September 10, 2019
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**DIVISION 01 – GENERAL REQUIREMENTS**

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Sealed bids will be received by Idaho Transportation Department, Boise, Idaho until prevailing local time on October 1, 2019 at 2:29:59 p.m. for Idaho Transportation Reroof Project, New Meadows, Idaho. Bids to be received at Idaho Transportation Department, 3311 W. State St., Boise, ID 83703. This project shall consist of removal of existing metal roofing at New Meadows Maintenance Building, and providing a complete new roofing system of new metal panel roofing, all as required by, specified in, and shown on the Contract Documents.

Licensed general and roofing contractors may obtain Drawings and Specifications from the Architect, LKV Architects, 2400 E Riverwalk Drive, Boise, Idaho, 83706 (336-3443) for a refundable document deposit of $250.00.

A Pre-Bid Conference will be held September 24, 2019 at 1:00 pm at Idaho Transportation Department, New Meadows Maintenance Building, New Meadows, ID, front entrance. Bidders are highly encouraged to attend.

Idaho Transportation Department reserves the right to accept or reject or to select any portion thereof any or all bids and to waive any technicality. No bid may be withdrawn after the bid opening unless the awarding of the bid is delayed for a period exceeding sixty (60) days.
TO: Idaho Transportation Department  
   New Meadows, Idaho

Gentlemen:

The Bidder, in compliance with your invitation for bids for the construction of the A Reroof for Idaho Transportation Department, 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 or following a date to be specified in written "Notice to Proceed" from the Owner, and to substantially complete the entire Work within 80 days of written “Notice to Proceed.” Bidder further agrees to pay liquidated damages as specified in Paragraph 9.11 of the Supplementary Conditions for time thereafter that the Work remains substantially incomplete.

Bidder acknowledges receipt of Addendum No. (‘s) ______________________________

BASE BID PROPOSAL: Bidder agrees to perform all of the Base Bid work described in the Specifications and shown on the Drawings for the sum of:

______________________________________________ Dollars ($________________) 

UNIT PRICE PROPOSAL – PLYWOOD ROOF SHEATHING: If during the course of the project plywood roof sheathing shall need replaced. The bidder’s unit price for plywood roof sheathing replacement shall be multiplied by 100 units 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 by multiplying the actual square feet of sheathing by the unit price.

______________________________________________ Dollars ($________________) x 100 units = $______________

BASE PROPOSAL PLUS UNIT PRICE:

______________________________________________ Dollars ($________________)

(Amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

UNIT PRICE PROPOSAL – 2x6 LUMBER: If during the course of the project 2x6’s shall need replaced. The bidder’s unit price for 2x6 unit price shall be multiplied by 50 units 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 by multiplying the actual lineal feet of lumber by the unit price.

_______________________________ Dollars ($_______________) x 50 units = $_____

BASE PROPOSAL PLUS UNIT PRICE:

_______________________________________________________ Dollars ($_______________)

(Amounts 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 and may not be withdrawn for a period of 45 calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, Bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by Article 7 of the Instructions to Bidders as modified by the Supplementary Instructions to Bidders. The bid security attached in the amount of 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:

**Plumbing (PWCL Category 15400)**

(Name) ________________________________________________________________

(Address) ________________________________________________________________

Idaho Public Works Contractors License No. __________________________________

Idaho State Plumbing Contractors License No. ________________________________

**Heating, Ventilation & Air Conditioning - HVAC (PWCL Category 15700)**

(Name) ________________________________________________________________

(Address) ________________________________________________________________

Idaho Public Works Contractors License No. ________________________________

Idaho State HVAC Contractors License No. ________________________________

**Electrical (PWCL Category 16000)**

(Name) ________________________________________________________________

(Address) ________________________________________________________________

Idaho Public Works Contractors License No. ________________________________

Idaho State Electrical Contractors License No. ________________________________
FAILURE TO NAME A PROPERLY LICENSED CONTRACTOR 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.

The Undersigned notifies that he is of this date duly licensed as an Idaho Public Works Contractor and further that he 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:

________________________________________
(Company)

(Seal - if bid is by a corporation)

________________________________________
(Business Address)

________________________________________
(Authorized Signature)

________________________________________
(Title)

________________________________________
(Telephone Number)

________________________________________
(FAX Number)

END OF BID PROPOSAL

BID BOND and CONTRACTOR'S AFFIDAVIT CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE are attached.
Instructions to Bidders

for the following PROJECT:
(Name and location or address)

« A Reroof for Idaho Transportation Department
New Meadows, Idaho
New Meadows Maintenance Building »
« »

THE OWNER:
(Name, legal status and address)
Idaho Transportation Department
« »

THE ARCHITECT:
(Name, legal status and address)
LKV Architects
2400 E. Riverwalk Dr.
Boise, ID 83706
« »

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ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1  DEFINITIONS
§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

ARTICLE 2  BIDDER'S REPRESENTATIONS
§ 2.1 The Bidder by making a Bid represents that:
§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

ARTICLE 3  BIDDING DOCUMENTS
§ 3.1 COPIES
§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the Advertisement or Invitation to Bid, or in supplementary instructions to bidders.
§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS
§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

§ 3.3 SUBSTITUTIONS
§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 ADDENDA
§ 3.4.1 Addenda will be transmitted to all who are known by the issuing office to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4   BIDDING PROCEDURES
§ 4.1 PREPARATION OF BIDS
§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non-erasable medium.
§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

§ 4.3 SUBMISSION OF BIDS

§ 4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.
§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS
§ 5.1 OPENING OF BIDS
At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

§ 5.2 REJECTION OF BIDS
The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.3 ACCEPTANCE OF BID (AWARD)
§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION
§ 6.1 CONTRACTOR'S QUALIFICATION STATEMENT
Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

§ 6.2 OWNER'S FINANCIAL CAPABILITY
The Owner shall, at the request of the Bidder to whom award of a Contract is under consideration and no later than seven days prior to the expiration of the time for withdrawal of Bids, furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. Unless such reasonable evidence is furnished, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 SUBMITTALS
§ 6.3.1 The Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, after notification of selection for the award of a Contract, furnish to the Owner through the Architect in writing:
  .1 a designation of the Work to be performed with the Bidder's own forces;
  .2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work; and
  .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.
§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND
§ 7.1 BOND REQUIREMENTS
§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 If the Owner requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.

§ 7.2 TIME OF DELIVERY AND FORM OF BONDS
§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in the amount of the Contract Sum.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR
Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

The following supplements modify, change, delete from or add to the Instructions to Bidders, AIA Document A701 - 1997. Where any Article of the Instructions to Bidders is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by the Supplementary Instructions to Bidders, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 2  BIDDER'S REPRESENTATIONS

Add to Article 2, the following:

2.1.5 The bidder is qualified, sufficiently staffed, properly equipped, approved where required, and is properly licensed to perform the work.

2.16 All manufacturers of roofing systems included in Specifications Section 074112, including those specifically named or listed as ‘approved’ in the Specifications, as well as those not specifically named or listed as ‘approved’ shall submit to the Architect a fully executed MANUFACTURER'S CERTIFICATION from the manufacturer’s authorized representative certifying that the manufacturer's representative has received the bidding documents for the project, that required guarantees can and will be issued for the specific installation, and that all specifications and detail as written and shown are appropriate for that alternate specifications and or details enclosed with the signed statement must be used, noting all exceptions, and listing approved applicators. This form shall be received by the Architect no later than five (5) dates prior to the state for the receipt of bids. The MANUFACTURER'S CERTIFICATION FORM included in the Project Manual following these Supplementary Instructions shall be used for this purpose.

ARTICLE 3  BIDDING DOCUMENTS

Add to Article 3, the following:

3.2.4 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 nor on indicated dimensions on the Bidding Documents in his determination of required materials quantities. No allowance shall be made for Bidder’s failure to field verify dimensions.

3.3.2 Change deadline for receipt of substitution requests in first sentence of Paragraph 3.3.2 from “… at least ten days prior to the date for receipt of Bids.” To “… at least seven days prior to receipt of Bids.”

ARTICLE 4  BIDDING PROCEDURES

Add to or supplement Article 4, the following:

4.1.8 Bidder shall prepare and submit his bid based on compliance with Executive Order 2006-40 and 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 takes 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 termination of any contract resulting from his bid.
4.2.1 Delete

4.2.2 Delete

4.2.3 Delete

4.3.1. The mailing envelope containing the bid shall be addressed as follows:

Bid Proposal
A Reroof for Idaho Transportation Department
New Meadows Idaho
Project FM32005
Idaho Transportation Department
3311 W. State Street
Boise, ID 83703

4.3.5 Along with his bid the bidder shall submit an affidavit certifying his compliance with Idaho Code, Title 72, Chapter 17, requiring the contractor and his subcontractors at the time of bid to provide a drug-free workplace program and to maintain such program throughout the duration of the contract.

ARTICLE 5 CONSIDERATION OF BIDS

Add to Article 5, the following:

5.4 PUBLIC WORKS CONTRACTORS LICENSE

This Public Works project is not financed in whole or in part by Federal Aid Funds. Bid Proposals will be accepted from those contractors only (prime contractors, subcontractors, and/or specialty contractors) who, prior to the bid opening, hold current licenses as public works contractors in the State of Idaho.

5.5 EMPLOYMENT PRACTICES

Bids shall be based on the provisions of Section 44-1001 and 44-1002 of the Idaho Code dealing with labor preference.

5.6 IDAHO DOMICILED CONTRACTORS

Section 67-2348, Idaho Code, requires the Owner 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 which has preference law which penalizes Idaho domiciled contractors then the Division of Public Works must apply preference. The preference that will be applied is the preference law of the domiciliary state of the contractor who submitted the lowest dollar bid.

Generally speaking, a contractor's domiciliary state is the state in which the contractor's home office is located. If federal funds are involved in the project then no preference will be used.

ARTICLE 6 POST BID INFORMATION

Delete paragraph 6.2
ARTICLE 7  Delete

ARTICLE 8  Delete

END OF SUPPLEMENTARY INSTRUCTIONS TO BIDDERS
MANUFACTURER’S CERTIFICATION
(Submit not less than five (5) days prior to bid date)

Project: A Reroof for Idaho Transportation Department
        New Meadows, Idaho
        New Meadows Maintenance Building

The undersigned roofing manufacturer hereby certifies that he has reviewed the drawings, specifications and
conditions of the site and the terms of the roofing guarantee included in the specification and find them
acceptable, and if the manufacturer’s materials are installed on the project in accordance with the drawings and
specifications and upon inspection by the manufacturer’s technical representative, manufacturer will issue the
guarantee in the form specified.

DATED THIS ___________ DAY OF ________________________ 20__

______________________________
(MANUFACTURER)

______________________________
(AUTHORIZED REPRESENTATIVE)

EXCEPTIONS: Subject to the following exceptions and or modification, (attach any details or added
verbiage that is required) the undersigned roofing manufacturer will certify to the conditions stated above:

______________________________

______________________________

______________________________

DATED THIS ____________________ Day of ________________________ 20__

______________________________
(MANUFACTURER)

______________________________
(AUTHORIZED REPRESENTATIVE)

APPROVED APPLICATORS: The following roofing contractors are approved applicators of the roofing
system specified (or approved) and as manufactured by the above named manufacturer:

NAME  ADDRESS

__________________________________________  __________________________

__________________________________________  __________________________

__________________________________________  __________________________

__________________________________________  __________________________

__________________________________________  __________________________

__________________________________________  __________________________
STATE OF __________________________

COUNTY OF __________________________

Pursuant to the Idaho Code, §72-1717, I, the undersigned, being duly sworn, depose and certify that __________________________ is in compliance with the provisions of Idaho Code title 72, chapter 17; that __________________________ provides a drug-free workplace program that complies with the provisions of Idaho Code, title 72, chapter 17 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 Idaho Code, §72-1717(1)(a).

Contractor hereby further certifies that Contractor and Sub-Contractor personnel have undergone criminal background checks as required by Idaho Code. Any employee on the sexual offenders’ list, or that has committed a crime against a child or children, shall not be allowed on the project work site.

________________________________________________________

Name of Contractor

________________________________________________________

Address

________________________________________________________

City and State

By: ____________________________________________________

(Signature)

Subscribed and sworn to before me this ______________ day of __________, ______.

Commission expires:

________________________________________________________

NOTARY PUBLIC, residing at

________________________________________________________
AGREEMENT BETWEEN OWNER AND CONTRACTOR

AIA Document A101, 2007 Edition, Standard Form of Agreement Between Owner and Contractor will be used as the agreement for this project. Copies of AIA Document A101 are available for review at the offices of the Architect. Copies of the document may be purchased from the American Institute of Architects or its local distributors.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

3.1 and 3.3 These dates will be fixed by issuance of a "Notice to Proceed". Delete the last sentence of paragraph 3.1.

3.3 Liquidated damages will be included as provided in the Supplementary Conditions.

ARTICLE 5 PAYMENTS

5.1.6 Retainage will be 5% for work completed and material suitably stored.

In subparagraph 5.1.6.1, delete the last sentence. Delete subparagraphs 5.1.7, 5.1.7.1, 5.1.7.2 and 5.1.8.

No reduction in retainage will be allowed prior to final completion without written approval of the Owner. Refer to Supplementary Conditions.

5.1.10 A condition will be included forbidding more retainage from a subcontractor or supplier than retained from their portion of the work.

END OF AGREEMENT BETWEEN OWNER AND CONTRACTOR
AIA Document A201, General Conditions of the Contract for Construction, 2007 Edition, is hereby included by reference and shall be a part of the Contract Documents. Copies of AIA Document A201 are available for review at the offices of the Owner and Architect. Copies of the document may be purchased from the American Institute of Architects or its local distributor.
SUPPLEMENTARY CONDITIONS

The following supplements modify the "General Conditions of the Contract for Construction", AIA Document A201, 2007. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

ARTICLE 2  OWNER

2.1  General

Add to 2.1.1 the following:

2.1.1.1  Idaho Transportation Department shall be the sole representative of the Owner, and here and after shall be designated as the Owner. Wherever in these specifications and contract the term "Owner" shall mean Idaho Transportation Department as represented by an authorized representative.

2.2  Information and Services Required of the Owner

Delete subparagraph 2.2.1

Add the following Subparagraph 2.2.2.1:

2.2.2.1  The Owner will pay directly to local jurisdictions for building and other permits required by such local jurisdictions. The Owner will apply for and obtain such permits.

2.2.2  Except for permits and fees, including those required under subparagraph 3.7.1, which are the responsibility of the Contractor under the Contract Documents, the Owner will secure and pay for any permits and fees specifically indicated in the Contract Documents to be secured and paid for by the Owner.

Delete subparagraph 2.2.3

Delete subparagraph 2.2.5 and substitute the following:

2.2.5  The Contractor will be furnished free of charge five (5) copies of Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

ARTICLE 3  CONTRACTOR

3.2  Review of Contract Documents and Field Conditions by Contractor

Delete subparagraph 3.2.1 in its entirety.

Delete subparagraph 3.2.2 in its entirety and replace with the following:
3.2.2 The Contractor shall carefully study and compare the various Drawings and other Contract Documents relative to the Work, as well as any information furnished by the Owner pursuant to Subparagraph 2.2.3, as modified, shall take field measurements of any existing conditions related to the Work and shall observe conditions at the site affecting the Work. Within ten (10) days from the Notice to Proceed, the Contractor shall certify in writing to the Architect that it has made the review required under this Subparagraph 3.2.2 and that it has discovered no errors, omissions or inconsistencies or identifying in as much detail as possible all errors, omissions, or inconsistencies the Contractor has discovered. Contractor shall have a continuing obligation during the Project to advise the Architect of any errors, omissions or inconsistencies it discovers. It is recognized that the Contractor’s review is made in its capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes and rules and regulations, but is for the purpose of identifying issues that could affect constructability, scheduling or cost, where such issues could be expected to be identified by a contractor with experience in projects of a similar size and nature.

Delete subparagraph 3.2.3 in its entirety and replace with the following:

3.2.3 If the Contractor believes that additional cost or time is involved because of clarifications or instructions issued by the Architect in response to the review and certification required by Subparagraph 3.2.2, the Contractor shall make Claims as provided in Subparagraphs 4.3.6 and 4.3.7. No claim for additional time will be allowed with regard to the time required to complete the review and certification requirements of Subparagraph 3.2.2. A failure by the Contractor to provide the written certification as required shall constitute a substantial breach of the Contract and may result in termination for cause. If the Contractor fails to perform its obligations under Subparagraph 3.2.2, a subsequent claim for additional costs, damages or time that is related to such error, omission or inconsistency may be denied.

3.6 Taxes

Add to 3.6 the following:

3.6.2 The Contractor, in consideration of securing the business of erecting or constructing public works in this State, recognizing that the business in which he is engaged is of a transitory character, and that in the pursuit thereof, his property used therein may be without the state when taxes, excises, or license fees to which he 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, 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 his property, to secure the same to the satisfaction of the respective officers charged with the collection thereof; and
3. That, in the event of his 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 him 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.

3.6.3 Before entering into a contract, the Contractor shall be authorized to do business in the state and shall submit a properly executed Contractor's Affidavit Concerning Taxes. (Page CA-1, included in the Project Manual).

3.6.4 Within ten days of receipt of forms from Owner, Contractor shall complete and return to Owner forms as required by tax collector, showing dates, names, addresses, contracting parties, including all subcontractors, and all other relevant information, which may be required.

3.7 Permits, Fees and Notices and Compliance with Laws

Delete subparagraph 3.7.1 and substitute the following:

3.7.1 The Contractor shall apply for, obtain, and pay for plumbing and electrical permits and inspections required by the Idaho Division of Building Safety. The Owner will apply for and obtain building and other permits and inspections required by any and all local jurisdictions. Contractor shall pay all fees and charges for the use of municipal or private property for storage of materials, parking, utility services, temporary obstructions, enclosures, refuse disposal, opening and patching of streets, etc., off of the property of the Owner arising from the construction and completion of the Work. Refer to Supplementary Condition 2.2.2.1 for permit fees provided by the Owner.

3.12 Shop Drawings, Product Data and Samples

In subparagraph 3.12.10, in the third sentence, delete “the Owner and”.

ARTICLE 4  ARCHITECT

4.2 Administration of the Contract

Delete subparagraph 4.2.10 and substitute the following:

4.2.10 The Architect will provide a project representative and indicate the limitations of his authority during the construction of the Work.

ARTICLE 7  CHANGES IN THE WORK

7.2 Change Orders

Add to 7.2 the following:

7.2.2 The amount allowed for overhead and profit on any change order is limited to the amounts indicated in subparagraph 7.3.11 of these Supplementary Conditions.
7.2.3 Any Change Order prepared, including but not limited to 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, but not limited to, all direct, indirect and consequential costs associated with such change and any and all adjustments to the Contract Sum and Contract Time. In the event a Change Order increases the Contract Sum, the Contractor shall include the work covered by such Change Order in the Application for Payment as if such work were originally part of the Project and Contract Documents.

7.2.4 By the execution of a Change Order, the Contractor agrees and acknowledges that he has had sufficient time and opportunity to examine the change in work which is the subject of the Change Order and that he 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, which could have reasonably been discovered or disclosed by the Contractor's examination.

7.3 Construction Change Directives

In subparagraph 7.3.5 after the word "Architect" insert the following words: "in writing within forty-eight hours ". The balance of the subparagraph remains unchanged.

In subparagraph 7.3.6, in the last sentence, delete "recorded as a" and substitute "incorporated into a future".

In subparagraph 7.3.7, in the first sentence, delete the words “as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount” and substitute the words “an allowance for overhead and profit in accordance with subparagraph 7.3.11 of these Supplementary Conditions.” In the second sentence after the words “In such case,” add the words “of an increase in Contract Sum”.

In subparagraph 7.3.9 delete the last two sentences.

Add to 7.3 the following:

7.3.11 For purposes of subparagraphs 7.2.2 and 7.3.7 of these Supplementary Conditions, the allowance for combined overhead and profit shall be limited as follows, unless otherwise provided in the Contract Documents:

.1 for total changes of $10,000 or less in direct cost, the amount allowed for overhead, profit, bonds and insurance for the Contractor and all subcontractors of any tier, combined shall not exceed twenty percent (20%) of direct costs.

.2 for total changes exceeding $10,000 in direct cost, 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.

.3 the Contractor will determine the apportionment between the Contractor and its subcontractors of allowable amounts of overhead, profit, bonds and insurance.
ARTICLE 8  TIME

8.1  Definitions

Add to subparagraph 8.1.1 the following:

8.1.1.1  The Contractor shall commence work under this contract on the date specified in written "Notice to Proceed" of the Owner and shall substantially complete the entire Work as defined by Subparagraph 9.8.1 no later than 75 calendar days thereafter.

In subparagraph 8.1.2, delete the word "Agreement" and substitute the words "Notice to Proceed".

8.3  Delays and Extensions of Time

In subparagraph 8.3.1 delete the words "and arbitration".

Delete subparagraph 8.3.3 and substitute the following:

8.3.3  Notwithstanding any term, condition or provision to the contrary in this Contract, the remedies available to the Contractor for adjustments of Contract Time and Contract Sum by reason of delay shall be those set forth in these Supplementary Conditions.

8.3.4  If the Contractor submits a progress report or schedule indicating, or otherwise expressing an intention to achieve completion of the Work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.

ARTICLE 9  PAYMENTS AND COMPLETION

9.3  Applications for Payment

Add to 9.3.1. the following:

9.3.1.3  The form of Application for Payment shall be AIA Form G702 or another form acceptable to both Owner and Architect.

Add to 9.3.2 the following:

Off site storage will not be approved at locations more than thirty (30) miles from the project site or outside the State. Any materials stored off site and paid for by the Owner shall be physically marked as being the property of the Owner. 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 requests for payment must indicate the type, quantities, and value of materials or equipment for which payment is requested. The Architect must have unrestricted access to the stored materials during all business hours and may physically inventory all invoice materials and may physically inspect the storage conditions. 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 of surety. Consent of local broker or agent is not acceptable. The Contractor must maintain and must provide to the Architect, upon request, a current log of stored materials and equipment, which reflects when materials are used or added. The Contractor must obtain and maintain on all materials and equipment stored off-site and in transit all risk property insurance at replacement cost, with the Owner listed as loss payee.

9.6 Progress Payments

Add to 9.6.1 the following:

9.6.1.1 Until conditions set forth in paragraph 9.10 are met, the Owner shall pay ninety-five percent (95%) of the amount due the Contractor on account of progress payments. If the Architect 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 9.10.

9.6.1.2 Progress Payments shall fall due thirty (30) days after the Architect’s Certificate for Payment is received by the Owner.

Add to 9.6.2 the following:

9.6.2.1 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.

Delete subparagraph 9.6.7

9.7 Failure of Payment

Delete paragraph 9.7

9.8 Substantial Completion

In subparagraph 9.8.5 delete the last two sentences.

9.10 Final Completion and Final Payment

In subparagraph 9.10.1, delete the words “… and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable.” from the end of the first sentence.

Add to 9.10.1 the following:

9.10.1.1 The final retainage shall become due and payable to the Contractor in not more than thirty (30) days after issuance of the final Certificate for Payment by the Architect, provided that the conditions of subparagraph 9.10.2 are fully satisfied.
Add to Article 9 the following:

9.11 Liquidated Damages

9.11.1 The Owner will suffer financial loss in an amount that is difficult to quantify if the Project is not Substantially Complete on the date set forth in the Contract Documents. The Contractor (and his Surety) shall be liable for and shall pay to the Owner the sums hereinafter stipulated as fixed, agreed and liquidated damages, and not as a penalty, for each calendar day of delay until the Work is substantially completed, based on the substantial completion date defined in Paragraph 8.1.1.1 above:

Two Hundred and Fifty DOLLARS ($250.00)

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

Add to 10.1 the following:

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

10.3 Hazardous Materials

Add to 10.3.1 the following:

10.3.1.1 Reference to asbestos or polychlorinated biphenyl (PCB) in this Article does not negate the appropriate abatement of asbestos and PCB containing materials as specifically required by the Contract Documents.

In subparagraph 10.3.2 add the following to the beginning of the first sentence:

“If the hazardous materials or substances were not reasonably susceptible of being disclosed or required to be abated by the Contract Documents, ”

In subparagraph 10.3.2 after the first sentence, delete the rest of the subparagraph.

Delete subparagraph 10.3.3.

In paragraph 10.4 delete the last sentence.

Delete paragraph 10.5

Delete paragraph 10.6

10.4 Emergencies

In subparagraph 10.6.1 delete the last sentence.
ARTICLE 11 INSURANCE AND BONDS

11.1 Contractor's Liability Insurance

In subparagraph 11.1.1.1 substitute a comma for the semicolon at the end, and add the following: “including private entities performing Work at the site and exempt from the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverage for the duration of the Project;”

In subparagraph 11.1.1.2 delete the semicolon at the end, and add the following: “or persons or entities excluded by statute from the requirements of Clause 11.1.1.1 but required by the Contract Documents to provide the insurance required by that Clause;”

Add to 11.1.2 the following:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits:

1. Workers' Compensation:
   
   (a) State: Statutory

   (b) Employer's Liability:

      | Limit          |
      |----------------|
      | Statutory      |
      | $100,000 per Accident |
      | $500,000 Disease, Policy |
      | $100,000 Disease, Each Employee |

2. Comprehensive or commercial general liability including premises operation; owners and contractors protective liability, products and completed operations liability, personal injury liability (including employee acts), broad form property damage liability and blanket contractual liability:

   (a) For any claim for bodily injury, property damage, personal injury or due to a contractual liability, limits of not less than $1 million per occurrence.

   (b) For products and completed operations coverage, coverage is to be maintained for a period of two (2) years following final payment.

   (c) For the hazards of explosion, collapse, and underground, commonly referred to as XCU, coverage shall be required if the exposures exist. This coverage may be provided by the subcontractor if the State and prime contractor are named as additional insureds.

3. Business auto liability (including owned, non-owned and hired vehicles) in an amount of not less than $1 million combined single limit.

4. If the General Liability coverages are provided by a Commercial Liability policy, the:

   (a) General Aggregate shall be not less than $1,000,000.
(b) Fire legal liability shall be provided in an amount not less than $50,000 per occurrence.

5. Umbrella Excess Liability:

   An umbrella policy may be used in combination with other policies to provide a minimum coverage of $1,000,000.

11.1.2.3 The Contractor shall require all subcontractors of any tier to provide Commercial General Liability Insurance with liability limits of not less than $1,000,000 for bodily injury and property damage, and Business Automobile Liability Insurance for all owned, non-owned and hired vehicles with liability limits of not less than $1,000,000.

Add to 11.1.3 the following:

11.1.3.1 If this insurance is written on the Comprehensive General Liability policy form, the Certificates shall be AIA Document G705, Certificate of Insurance or ACORD form 25. If this insurance is written on a Commercial General Liability policy form, ACORD form 25S will be acceptable.

11.3 Property Insurance

Delete subparagraph 11.3.1.2.

Beginning with subparagraph 11.3.1.5 delete the remainder of Paragraph 11.3 and substitute the following subparagraphs:

11.3.2 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.

11.3.3 Within thirty (30) days of Notice to Proceed, the Owner shall provide to the Contractor evidence of the insurance coverages required by this Paragraph 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least thirty (30) days’ prior written notice has been given to the Contractor.

11.3.4 Waivers of Subrogation. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other and (2) the Architect, Architect’s consultants, separate contractors described in Article 6, 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 Paragraph 11.3 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 Architect, Architect’s consultants, separate contractors described in Article 6, 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 or otherwise. 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.

11.3.5 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 Paragraph 11.3. 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 Paragraph 11.3. Any objection by the Contractor to a settlement or adjustment made under this Paragraph 11.3 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.

11.3.6 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.

11.3.7 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 for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

11.3.8 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 Paragraph 11.3 and make payments to their Sub-subcontractors in similar manner.

11.3.9 Nothing contained in this Paragraph 11.3 shall preclude the Contractor from obtaining solely at its own expense, insurance on its behalf.

Add to Article 11 the following:

11.5 Indemnity

11.5.1 The Contractor shall indemnify, defend and save harmless the Owner, the Architect, and the Architect’s Consultants from and against all claims, damages, costs, legal fees, expenses, actions and suits whatsoever including injury or death of others or any employee of the Contractor, subcontractors, or the sub-subcontractors, agents or employees, caused by failure to comply fully with any term or condition of the Contract, or
caused by damage to or loss of use of property, directly or indirectly, by the carrying out of the work, or caused by any matter or thing done, permitted or omitted to be done by the Contractor, his agents, subcontractors or employees and occasioned by the negligence of the Contractor, his agents, subcontractors or employees.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 Governing Law

Add to 13.1 the following:

13.1.1 Each Contractor and his subcontractors and sub-subcontractors shall comply with all Idaho Statutes with specific reference to Public Works Contractor's State License Law, Title 54, Chapter 19, Idaho Code, as amended.

13.1.2 Pursuant to Sections 44-1001 and 44-1002, Idaho Code, it is provided that each Contractor "must employ ninety-five percent (95%) bona fide Idaho residents as employees, except where under such contracts fifty or less persons are employed, the Contractor may employ ten percent (10%) non-residents, 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 honorable discharged soldiers, sailors, or marines, prohibiting as unlawful any other preference or discrimination among citizens of the United States."

13.2 Successors and Assigns

In subparagraph 13.2.1, in the second sentence, delete “Except as provided in Subparagraph 13.2.2,”.

Delete subparagraph 13.2.2.

13.7 Time Limit on Claims

Delete paragraph 13.7 and substitute the following:

13.7 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.

Add to Article 13 the following:

13.8 Equal Opportunity

13.8.1 The Contractor shall maintain policies of employment as follows:
13.8.1.1 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, but not be limited to, 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.

13.8.1.2 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 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 Termination by the Contractor

In subparagraph 14.1.1, in the first sentence, delete the number "30" and substitute the number "60".

Delete subparagraphs 14.1.1.3 and 14.1.1.4.

Delete subparagraph 14.1.2.

In subparagraph 14.1.3 delete "or 14.1.2".

In subparagraph 14.1.3 delete the words "costs incurred by reason of such termination, and damages."

Delete subparagraph 14.1.4.

14.2 Termination by the Owner for Cause

In subparagraph 14.2.2.3 delete the last sentence.

14.4 Termination by the Owner for Convenience

Delete subparagraph 14.4.3 and substitute the following:

14.4.3 In the case of such termination for the Owner convenience, the Contractor shall be entitled to receive payment from the Owner on the same basis provided in Subparagraph 14.1.3, as modified.

ARTICLE 15 CLAIMS AND DISPUTES

15.1 Claims
Add to 15.1.4 the following:

15.1.4.1 The Contractor shall not be entitled to an adjustment in Contract Time or in Contract Sum for any delay or failure of performance to the extent such delay or failure was caused by the Contractor or anyone for whose acts the Contractor is responsible. The Contractor shall be entitled to an equitable adjustment in Contract Time, and may be entitled to an equitable adjustment in Contract Sum, if the cost or time of Contractor’s performance is delayed or changed due to the fault of the Owner. To the extent any delay or failure of performance was concurrently caused by the Owner and Contractor, the Contractor shall be entitled to an adjustment in the Contract Time for that portion of the delay or failure of performance that was concurrently caused, but shall not be entitled to an adjustment in Contract Sum. In the event that the Contractor is entitled to an adjustment in Contract Sum, the Owner will pay only for the following verifiable costs directly associated with the time extension or delay: 1) the actual labor costs, fringe benefits, employment taxes and insurance related to the Project Superintendent; 2) the cost associated with the fair rental value of the Project Superintendent’s vehicle directly related to the time extension; 3) the direct costs attributable to the extension for the field office facility, including telephone lines, utilities, power, lights, water, and sewer (toilets). Mark-up on these costs will not be allowed. The Contractor shall make all reasonable efforts to prevent and mitigate the effects of any delay regardless of cause.

15.4 Arbitration

Add the following sentences to the beginning of subparagraph 15.4.1:

“The Contractor and the Owner shall not be obligated to resolve any Claim or dispute related to this Contract by arbitration. Upon agreement of the parties and following the exhaustion of mediation, any Claim related to this Contract may be submitted to arbitration, either binding or non-binding, upon mutually agreeable terms and conditions. In the absence of such agreement, any reference in this Contract to arbitration is deemed void and has no force or effect.”

END OF SUPPLEMENTARY CONDITIONS
CONTRACTOR’S AFFIDAVIT CONCERNING TAXES

STATE OF ___________________)  
COUNTY OF ___________________)  

Pursuant to the Idaho Code, Title 63, Chapter 15, 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  

By: ___________________________  
(Signature)  

Subscribed and sworn to before me this ___________________ day of  
_________________________. ______ .  
Commission expires:  

______________________________  
NOTARY PUBLIC, residing at  

______________________________  

______________________________
PART 1 - GENERAL

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

1.2. DESCRIPTION OF THE PROJECT
A. The scope of this project is a complete metal roofing panel reroof of New Meadows Maintenance Building, New Meadows, Idaho. Work shall be as required by, specified in, and shown in Contract Documents titled Idaho Transportation Department, New Meadows, Idaho, New Meadows Maintenance Building.

B. All Work under this Contract shall occur within the project property lines indicated on the Drawings.

1.3. CONTRACT DOCUMENTS
A. The Contract Documents for the Work are entitled:
   A Reroof for Idaho Transportation Department
   New Meadows, Idaho
   New Meadows Maintenance Building


1.4. WORK PHASES
A. Work on this project will be performed in a single phase per a schedule to be developed by the Project Contractor and Owner.

1.5. USE OF PREMISES
A. General: Contractor shall have use of the project site for construction operations during the construction period with certain limitations related to weekday use of the existing buildings and site for school operations. Contractor’s use of premises is limited only by building operational requirements, and by Owner’s right to self-perform work or to retain other contractors for various aspects of the Project. Generally, Contractor’s use of areas within limits of construction and outside perimeter of existing building, existing parking lots, will be unlimited.
B. Use of Site: Limit use of premises to areas within Owners property boundaries. Do not disturb playfields, adjacent property, or public right of way except as required to perform specified work.

C. Contractor shall maintain roads and streets surrounding the project site in an accessible and clean condition throughout the construction period, except that the Contractor shall not be responsible for road and utility construction performed by others under separate contracts.

1. Roads and streets surrounding the project site shall not be blocked to vehicle traffic at any time by operations under this Contract.
2. Contractor shall remove and sweep dirt, mud, gravel, debris, etc. due to work under this Contract from driveways and paved roads adjacent to the site as required.
3. Contractors and construction personnel shall not park equipment or personal vehicles along roads and streets surrounding the project site, nor in a manner to disrupt traffic flow or access to any adjacent properties.
4. Contractors shall not enter adjacent properties, private driveways, etc., for any reason. Do not use adjacent properties or private driveways for vehicle turn around.

1.6. WORK RESTRICTIONS

A. On-Site Work Days and Hours: Work days and hours are not restricted.

B. Existing Utility Interruptions: Do not interrupt utilities serving neighboring and nearby properties others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify public utility and nearby property owners not less than seven days in advance of proposed utility interruptions.

Do not proceed with utility interruptions without written permission of utility provider

1.7. SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
B. 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. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
   a. 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.

1.8 HAZARDOUS MATERIALS

A. Hazardous materials should not but may be present in portions of the building undergoing reroofing. If hazardous materials are encountered or suspected, follow procedures outlined in Project General Conditions.

1.9. FIRE RATED ASSEMBLIES

A. Fire rated construction, if any, shall conform to all requirements of fire rated assemblies referenced on the Drawings described in the Specifications, or included in appendices in the Project Manual.

   1. The Contractor shall provide all components necessary to conform to any and all referenced assemblies.

1.10. WORK NOT NOTED, DETAILED, OR SPECIFIED

A. All work required for a complete installation or assembly shall be included in the Contractor's bid. Where minor portions of required work are not noted, detailed or specified, such work shall be done in accordance with proven construction practice, industry standards, or as directed by Architect. Such required work shall be done at no additional cost to Owner.

1.11. DIMENSIONS AND MEASUREMENTS

A. Contractor shall field verify all dimensions pertaining to the work and shall be responsible for the determination of all quantities of materials required for the work and for the accuracy of all dimensions of materials and items fabricated for this project. Contractor shall not rely on the scale drawings in the project Drawings in the determination of exact quantities or dimensions.
1.12. GENERAL INSTALLATION PROVISIONS

A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Installation of affected components shall not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

B. Manufacturer's Instructions. Contractor shall comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

C. Contractor shall inspect materials or equipment immediately upon delivery and prior to installation and shall reject damaged and defective items.

D. Contractor shall provide all attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.

E. Visual Effects: Contractor shall provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to Architect for final decision.

F. Contractor shall check and recheck measurements, dimensions, and elevations before starting each installation and shall be responsible for the accuracy of all measurements, dimensions, and elevations.

G. Contractor shall install each component during acceptable weather conditions.

H. Mounting Heights: Where mounting heights are not indicated, Contractor shall install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision. Mount items on walls to conform to the requirements of the Americans with Disabilities Act.

1.13. CLEANING AND PROTECTION

A. During handling and installation, The Contractor shall clean and protect construction in progress and adjoining materials in place. Apply protective coverings where required to ensure protection from damage or deterioration at Substantial Completion.

B. The Contractor shall clean and maintain completed construction as frequently as necessary through the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures: The Contractor shall supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging or otherwise deleterious exposure from any source during the construction period.
1.14. REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS

A. All items of Work shown or noted on the Drawings and / or described in the Project Manual shall be provided by the Contractor as a part of his Work. Should an item be shown or noted on the Drawings and not described in the Project Manual, the Contractor shall provide the item at no additional cost to the Owner. Should an item be described in the Project Manual and not shown or noted on the Drawings, the Contractor shall provide the item at no additional cost to the Owner.

END OF SECTION 011000
SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Requirements:

1. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
2. Division 01 Section "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in 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.

1.4 PROCEDURES

A. Unit prices include all necessary material, labor and equipment, plus cost for delivery, disposal, 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.
1.5 UNIT PRICE CONSIDERATION

A. To determine the order of bids (i.e. the “low bid”) for this project during bidding, the amount of one hundred (100) times the Unit Price amount will be added to the Bidder’s Base Bid amount. This addition will be to determine the order of bids only and will not form the basis for the Contract Sum in the agreement between Owner and Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Removal and Replacement of plywood roof sheathing at inspection locations and damaged areas.

1. Description: Unit price shall consist of and installed price per 4’-0” x 8’-0” sheet of plywood roof sheathing to replace or repair existing roof decking.

   a. Material: Per Specification Section 061000.

B. Removal and Replacement of 2x6 lumber at damaged areas.

1. Description: Unit price shall consist of and installed price per 2x6, 10’-0” length lumber to replace or repair existing fascia.

   a. Material: Per Specification Section 061000.

END OF SECTION 012200
SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

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

1.2 SUMMARY
   A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.3 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, on AIA Document G710, Architect's Supplemental Instructions.

1.4 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. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
   2. Within time specified in Proposal Request 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.

   3. Owner-initiated proposal requests will be issued on AIA Document G709, Work Changes Proposal Request.
B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.

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 Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Contractor initiated proposals.

1.5 CHANGE ORDER PROCEDURES


1.6 CONSTRUCTION CHANGE DIRECTIVES

A. Construction Change Directives: Architect may issue a Construction Change Directive on form provided by Owner. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. A 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. Construction Change Directives will be issued on AIA Document G714, Construction Change Directive.

C. 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.
SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

   a. Application for Payment forms with Continuation Sheets.
   b. Submittals Schedule.
   c. Contractor's Construction Schedule.

2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Application for Payment.

B. Format and Content: Use the 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. Identification: Include the following Project identification on the Schedule of Values:

   a. Project name and location.
   b. Name of Architect.
   c. Contractor's name and address.
   d. Date of submittal.
2. Submit draft of AIA Document G703 Continuation Sheets or other equivalent form approved by Architect and Owner.

3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
   a. Related Specification Section or Division.
   b. Description of the Work.
   c. Change Orders (numbers) that affect value.
      1) Change Orders shall be fully executed with all necessary signatures before they are included in the Schedule of Values.
      2) Construction Change Directive cost changes shall be incorporated into fully executed Change Order (s) before they are included in the Schedule of Values.
   d. Dollar value.
      1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

6. 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. Include evidence of insurance or bonded warehousing.

7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Provide a separate line item for the value of project closeout activities.

9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Progress payments shall be submitted to Architect on or before the agreed date of each month. The period covered by each Application for Payment is one month, ending on the last day of the month.

C. Payment Application Forms: Use AIA Document G702 or other equivalent form approved by Owner and Architect.

1. Entries on continuation sheet shall be consistent with approved Schedule of Values.

D. Application Preparation: Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incorrect or incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders issued before last day of construction period covered by application.

E. Transmittal: Submit one signed original copy of each Application for Payment to Architect by a method ensuring receipt within 24 hours.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. 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. List of suppliers.
4. Products list.
5. Submittals Schedule (preliminary if not final).

G. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete, less the value of project closeout activities.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
H. Final Payment Application: 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. Contractor's Affidavit Concerning Taxes.
4. Consent of Surety to Final Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Administrative and supervisory personnel.
3. Project meetings.
4. Requests for Interpretation (RFIs).

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

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 with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

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. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.5 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of fabricated products and materials.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

   a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   b. Indicate required installation sequences.
   c. Indicate dimensions shown on the Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
3. Number of Copies: Submit electronically or five opaque copies of each submittal. Architect will return one copy.
   
   a. Submit electronically or eight copies where Coordination Drawings are required for operation and maintenance manuals. Architect will return four copies. Mark up and retain one returned copy as a Project Record Drawing.

4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

B. Key Personnel Names: Within 5 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 cell and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 PROJECT MEETINGS

A. General: Meetings and conferences will be held at Project site, unless otherwise indicated.

B. Preconstruction Conference: Contractor will schedule a preconstruction conference before the start of construction, at a time convenient to all parties. The conference will be held at Project site or another convenient location.

1. Attendees: Authorized representatives of Owner, Architect, and Architect’s consultants; Contractor and Contractor’s superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including but not limited to the following:
   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing and long-lead items.
   d. Designation of key personnel and their duties.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for RFI.
   g. Procedures for testing and inspecting.
   h. Procedures for processing Applications for Payment.
   i. Distribution of the Contract Documents.
   j. Submittal procedures.
   k. Preparation of Record Documents.
   l. Use of the premises.
   m. Work restrictions.
   n. Owner's occupancy requirements.
   o. Responsibility for temporary facilities and controls.
   q. Parking availability.
   r. Office, work, and storage areas.
   s. Equipment deliveries and priorities.
   t. Security.
   u. Progress cleaning.
   v. Working hours.

3. Minutes: Contractor shall record and distribute meeting minutes.
C. Preinstallation Conferences: Contractor shall conduct a preinstallation conference at Project site before each major construction activity that requires extensive 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.
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 parties who should have been present.
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: Contractor will conduct formal progress meetings with the Owner at bi-weekly intervals. Dates of meetings will be coordinated with preparation of payment requests on a monthly basis.

1. Attendees: In addition to representatives of the Owner; the Architect and Architect’s consultants; and the Contractor and Contractor’s superintendent; each 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. 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 the 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. 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.

   c. 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) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) RFIs.
16) Status of proposal requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.
20) Documentation of information for payment requests.

3. Minutes: Contractor shall record and distribute the meeting minutes.

1.7 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, prepare and submit an RFI on a form acceptable to Owner and Architect.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. Project name.
2. Date.
3. Name of Contractor.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
C. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow ten working days for Architect's response for each RFI. RFIs received 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 RFIs with numerous errors.

2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.

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 submit Change Proposal according to Division 01 Section "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. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within three days if Contractor disagrees with response.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100
SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This 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. Submittals Schedule.
3. Daily construction reports.
4. Material location reports.
5. Field condition reports.
6. Special reports.

1.3 SUBMITTALS

A. Submittals Schedule: Submit two copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit copy of initial schedule, large enough to show entire schedule for entire construction period.

C. Daily Construction Reports: Submit copy at monthly intervals unless interim submittals are requested by Architect.

D. Field Condition Reports: Submit copy at time of discovery of differing conditions.

E. Electronic copy may be submitted in lieu of hard copies subject to the approval of the Owner and Architect.
1.4 COORDINATION

A. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

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

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. Initial Submittal: Submit schedule for submittals required during the first 30 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: In addition to the following, comply with all requirements of Paragraph 3.10 of the Supplementary Conditions.

B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial 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.

C. Activities: Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 30 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.
4. Startup and Testing Time: Include 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.

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. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

2.3 REPORTS

A. Daily Construction Reports: Contractor shall prepare a daily construction report recording the following information concerning events at Project site:
   1. List of subcontractors at Project site.
   2. Approximate count of personnel at Project site.
   3. Equipment at Project site.
   5. High and low temperatures and general weather conditions.
   6. Accidents.
   7. Meetings and significant decisions.
   8. Unusual events (refer to special reports).
   9. Stoppages, delays, shortages, and losses.
   10. Emergency procedures.
   11. Orders and requests of authorities having jurisdiction.
   12. Change Orders received and implemented.
   13. Construction Change Directives received and implemented.
   14. Services connected and disconnected.
   15. Equipment or system tests and startups.
   16. Partial Completions and occupancies.
   17. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: Conform to the requirements of Paragraph 3.10 of the Supplementary Conditions.

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 Actual Completion percentage for each activity.

B. Distribution: In addition to the requirements of Paragraph 3.10 of the Supplementary Conditions, distribute copies of approved schedule to 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 013200
SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.3 SUBMITTAL PROCEDURES

A. 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. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

   a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time: Allow enough 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 10 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. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 10 days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 14 days for initial review of each submittal.

D. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information on label for processing and recording action taken:
   a. Project name.
   b. Date.
   c. Name and address of Contractor.
   d. Name and address of subcontractor.
   e. Name and address of supplier.
   f. Name of manufacturer.
   g. Submittal number or other unique identifier, including revision identifier.
      1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
   h. Number and title of appropriate Specification Section.
   i. Drawing number and detail references, as appropriate.
   j. Location(s) where product is to be installed, as appropriate.
   k. Other necessary identification.

E. Deviations: Highlight, Encircle or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

1. Additional copies submitted for maintenance manuals will be marked with action taken and will be returned.

G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
I. 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.

J. Use for Construction: Use only final submittals with mark indicating final unrestricted release or final but restricted release action taken by Architect.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. 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 printed data are not suitable 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 written recommendations.
   b. Manufacturer's product specifications.
   c. Manufacturer's installation instructions.
   d. Standard color charts.
   e. Manufacturer's catalog cuts.
   f. Wiring diagrams showing factory-installed wiring.
   g. Printed performance curves.
   h. Operational range diagrams.
   i. Mill reports.
   j. Standard product operation and maintenance manuals.
   k. Compliance with specified referenced standards.
   l. Testing by recognized testing agency.
   m. Application of testing agency labels and seals.
   n. Notation of coordination requirements.

4. Submit Product Data before or concurrent with Samples.
5. Number of Copies: Submit electronically or five hard copies of Product Data, unless otherwise indicated. Architect will return a minimum of three copies. Mark up and retain two returned copies as a Project Record Documents.

C. 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, unless submittal of Architect's CAD Drawings are otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.
m. Relationship to adjoining construction clearly indicated.
n. Seal and signature of professional engineer if specified.
o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).

3. Number of Copies: Submit electronically or five opaque copies of each submittal. Architect will return a minimum of three copies. Mark up and retain two returned copies as Project Record Drawings.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of appropriate Specification Section.

3. 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.

4. 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 three 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 retain one set of samples with options selected.

5. 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 sets of Samples. Architect will retain one Sample set; 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 samples that show approximate limits of variations.

E. Product Schedule or List: 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:

1. Type of product. Include unique identifier for each product.
2. Number and name of room or space.
3. Location within room or space.
4. Number of Copies: Submit electronically or three copies of product schedule or list, unless otherwise indicated. Architect will return two copies.

a. Mark up and retain one returned copy as a Project Record Document.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation".

G. Submittals Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

H. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
J. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Number of Copies: Submit three copies of subcontractor list.
5. Subcontractor list shall be included in Project Record Documents.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit electronically or two hard copies of each submittal, unless otherwise indicated. Architect will not return copies.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

C. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
I. **Material Certificates:** Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

J. **Material Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

K. **Product Test Reports:** Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. **Research/Evaluation Reports:** Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
   1. Name of evaluation organization.
   2. Date of evaluation.
   3. Time period when report is in effect.
   4. Product and manufacturers' names.
   5. Description of product.
   6. Test procedures and results.
   7. Limitations of use.

M. **Schedule of Tests and Inspections:** Comply with requirements specified in Division 01 Section "Quality Requirements."

N. **Preconstruction Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

O. **Compatibility Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

P. **Field Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

Q. **Maintenance Data:** Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

R. **Design Data:** Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
S. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

T. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

U. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

V. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.

1. Architect will not review submittals that include MSDSs and will return the entire submittal for resubmittal.

2.3 DELEGATED DESIGN

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 Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit eight copies of 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.
1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. 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 submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, 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.

3.2 ARCHITECT'S / ACTION

A. General: Architect will not review submittals that do not bear the Contractor’s approval stamp, and will return inadequately stamped submittals without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return copies. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Final Unrestricted Release: Where submittals are marked “Approved,” that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.

2. Final-But-Restricted Release: When submittals are marked “Approved as Noted,” that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.

3. Returned for Re-submittal: When submittal is marked “Not Approved, Revise and Resubmit” do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.

   a. Do not permit submittals marked “Not Approved, Revise and Resubmit” to be used at the Project site, or elsewhere where Work is in progress.

   b. Submittals will be returned for re-submittal without review by the Architect under any of the following conditions:

      1) The Contractor has not reviewed and signed the submittal.
2) The submittal does not meet the requirements of the Contract Documents.

3) The submittal contains manufacturers and/or products not approved prior to bidding or subsequent to bidding under specified conditions.

4) The submittal contains error, omissions, or other deficiencies, which, in the opinion or the Architect, make the submittal unacceptable for review.

C. 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.

D. Partial submittals are not acceptable, will be considered no responsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300
SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 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": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

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.

1.3 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.

1.4 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 Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200
SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

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

1.2 SUMMARY
A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 DEFINITIONS
A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES
A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

B. Water Service: Building water may be used by all entities for construction operations, except large water quantities required for earthwork compaction operations. Water costs will be paid by the Owner.

C. Electric Power Service: Building power may be used to the extent available by all entities for construction operations. Electricity costs will be paid by the Owner. Contractor shall provide additional temporary power when and/or where building power is deemed inadequate.

D. Temporary Heat: Contractor shall provide temporary heat as required. Existing building systems shall not be used.

1.5 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.
1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall 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 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 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.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: As required, 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 if required.

B. Sanitary Facilities: Contractor to provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Contractor personnel shall not use existing facilities in building.

C. Heating: If required, Contractor to provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

D. Ventilation and Humidity Control: Contractor to provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction and construction personnel from adverse effects of high heat and/or humidity.
Select equipment that will not have a harmful effect on either workers or as may be required for sub-contractor’s scope of work in order to provide completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

E. Lighting: Contractors to provide temporary lighting as may be required for contractor’s scope of work in order to provide adequate illumination for construction operations, observations, and inspections.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Use designated areas of Owner's existing site areas for construction personnel as directed by Owner.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.

E. Waste Disposal Facilities: Contractor to provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

F. Construction Fencing: Contractor to provide chain link construction fencing and gates as deemed necessary to secure premises and/or storage/staging area. Fencing shall include post bases that permit support of fence posts without damage to asphalt or concrete paving.

G. 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.
H. Barricades, Temporary Enclosures, and Emergency Egress Provisions:
   1. Contractor shall provide general isolation/security fencing, barricades, enclosures, and emergency egress provisions required to isolate/separate construction activities and building users.
   2. Respective Contractors shall provide trade-specific enclosures, protectives, and tenting and heating as required to permit and support construction of that trade’s materials and systems.
   3. Contractor shall coordinate with local Fire authority regarding required emergency egress provisions from existing buildings when buildings, are occupied.

I. Weather Protection: Contractor to provide tenting, tarping, sheeting, and other provisions to protect exposed roof deck and open attic areas during the course of construction from the damaging effects of rain, hail, and wind.
   1. Protective materials shall be on hand at all times and shall be installed at the conclusion of each work day regardless of forecasted weather.

END OF SECTION 015000
SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This 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 product substitutions.

B. Subcontractor shall incorporate into the Work only those products specified, indicated as basis-of-design products, those products approved in Addenda prior to bidding, or as approved after award of Contract under conditions set forth in Paragraphs 1.4 and 2.2 below.

1.3 DEFINITIONS

A. Products: Items purchased 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, 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. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics.
1.4 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. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

   a. Statement indicating why specified material or product cannot be provided.
   b. Coordination information, including a list of changes or modifications 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. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
   e. Samples, where applicable or requested.
   f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
   g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
   h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
   i. 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 lack of availability or delays in delivery.
   j. Cost information, including a proposal of change, if any, in the Contract Sum.
   k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
   l. 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.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 10 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 10 days of receipt of additional information or documentation, whichever is later.

   a. Form of Acceptance: Change Order.
   b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Subcontractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
   1. Subcontractor is responsible for providing products and construction methods compatible with all other products and construction methods of other contractors.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. 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 ensure compliance with the Contract Documents and to ensure 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. Store cementitious products and materials on elevated platforms.
   5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   7. Protect stored products from damage and liquids from freezing.
   8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 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: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final 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 appropriate form properly executed.

3. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that 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 not in conflict with requirements of the Contract Documents.

4. Where products are accompanied by the term "as selected," Architect will make selection.

5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.


7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.

4. Manufacturers: Where Specifications include a list of manufacturers’ names, provide a product by one of the manufacturers listed that complies with requirements.

5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.

6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.

7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.

8. Basis-of-Design Product: Where Specifications name a product, provide the specified product. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Products by other manufacturers are subject to approval prior to bidding.

   a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.

10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
   a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
   b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. Timing: Following award of Contract, Architect will consider requests for substitution for products specified or approved by addendum under any or all of the following conditions:

1. The specified product cannot be provided within the Contract Time. The request will not be considered if the product cannot be provided as a result of the Subcontractor’s failure to pursue the Work promptly or coordinate activities properly.
2. The specified product cannot receive necessary approvals by governing authorities, and the requested substitution can be approved.

3. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.

4. The specified product cannot be provided in a manner that is compatible with other materials, or cannot be properly coordinated, warranted, or insured, and where the Contractor certifies that the substitution will overcome the deficiency.

B. By making a request for substitution, contractor warrants that:

1. Requested substitution does not require extensive revisions to the Contract Documents.
2. Requested substitution is consistent with the Contract Documents and will produce indicated results.
3. Substitution request is fully documented and properly submitted.
4. Requested substitution will not adversely affect Contractor's Construction Schedule.
5. Requested substitution has received necessary approvals of authorities having jurisdiction.
6. Requested substitution is compatible with other portions of the Work.
7. Requested substitution has been coordinated with other portions of the Work.
8. Requested substitution provides specified warranty.
9. 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000
SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

2. General installation of products.
3. Coordination of Owner-installed products.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.
7. Correction of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

B. Utilities: The existence and location of underground and other utilities and construction indicated as existing or by others is not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

C. Acceptance of Conditions: 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. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. 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 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.


3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and
duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 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.

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. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

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.

H. 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.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.
3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

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: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

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 assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
3.6 STARTING AND ADJUSTING
A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.7 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. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK
A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
B. Restore permanent facilities used during construction to their specified condition.
C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS
A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS
A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.
1.5 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. 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. Operating elements include the following:

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.
9. Operating systems of special construction in Division 13 Sections.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related 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. Miscellaneous elements include the following:

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior curtain-wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces 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.

E. 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.

1.6 WARRANTY

A. Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void warranties.
PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials 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 match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.

   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. 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.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. 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 minimize interruption to occupied areas.

3.3 PERFORMANCE

A. 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. 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 as small as possible, neatly to 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 or 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 Division 31 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.

C. 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 possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate 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 eliminate 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, apply primer and intermediate paint coats 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.
D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329
SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

   1. Inspection procedures.
   2. Warranties.
   3. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   3. Each Subcontractor shall incorporate changes in their respective work on project Record Drawings.
   4. Deliver tools, spare parts, extra materials, and similar items to Contractor. Label with manufacturer's name and model number where applicable.
   5. Complete startup testing of systems.
   7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   8. Submit preliminary manuals required by Specifications Section 017823 (two copies) for review by Architect.
   9. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
   10. Complete final cleaning requirements, including touchup painting.
   11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
1.4 Warranties

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 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. 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: Provide 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. Subcontractor’s shall complete the following cleaning operations relative to their respective scope of work.

   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; shampoo 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. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

k. Remove labels that are not permanent.

l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

n. Replace parts subject to unusual operating conditions.

o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

q. Clean ducts, blowers, and coils if units were operated without filters during construction.

r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

s. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700
SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Maintenance manuals for the care and maintenance of products, materials, finishes, systems and equipment.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

A. Submittal: Submit two copies of each manual in preliminary form as a condition of Substantial Completion. Architect will return copies with required corrections indicated within 15 days after Substantial Completion.

1. Correct or modify each manual to comply with Architect's indicated corrections. Submit 2 copies of each corrected manual prior to Final Acceptance of the Work.
2. Corrected preliminary manuals may be used for final submittal.

1.5 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.
PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

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."

2.2 MANUALS, GENERAL

A. Organization: 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.

B. Title Page: Enclose title page in transparent plastic sleeve. 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, address, and telephone number of Contractor.
6. Name and address of Architect.
7. 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.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

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.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
   a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.


5. 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.

2.3 OPERATION MANUALS

A. 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.
2. Performance and design criteria if Contractor is 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.

B. Descriptions: Include the following:
1. Product name and model number.
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.

C. 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.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUALS

A. 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.
1. Provide a summary list of all finish materials in manual at the front of the manual.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:
1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
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.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. 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 warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
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 videotape, 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.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

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. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. 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 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, 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.

1. 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.
E. 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. Do not use original Project Record Documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Project Record Documents."

F. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823
SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

1.3 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit two set(s) of marked-up Record Prints to Contractor.

B. Record Specifications: Submit two copies of Project's Specifications, including addenda and contract modifications to Contractor.

C. Record Product Data: Submit two copies of each Product Data submittal to Contractor.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual in addition to submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

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 prepare the 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. Accurately record information in an understandable drawing technique.
c. Record data as soon as possible after obtaining it. Record and check the markup
before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:
   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations below first floor.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.
   h. Duct size and routing.
   i. Locations of concealed internal utilities.
   j. Changes made by Change Order or Construction Change Directive.
   k. Changes made following Architect's written orders.
   l. Details not on the original Contract Drawings.
   m. Field records for variable and concealed conditions.
   n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings, completely and accurately.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish
between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted
from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order
numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD
DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into
manageable sets. Bind each set with durable paper cover sheets. Include identification
on cover sheets.
2. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Architect.
   e. Name of Contractor.

3. Contractor shall furnish (2) hard copy sets of Record Drawings and (2) CDs containing
high quality scans of Record Drawings to the Owner.
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. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
6. Provide hard and electronic copies in same quantities as Record Drawings.

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.
4. Provide hard and electronic copies in same quantities as Record Drawings.

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. Provide hard and electronic copies in same quantities as Record Drawings.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain copies of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the 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 017839
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. Section Includes:

   1. Demolition and removal of selected portions of a building or structure.

1.3 DEFINITIONS
   A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

   B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP
   A. Unless otherwise indicated, demolition waste becomes property of Contractor.

   B. Items indicated to be removed by Owner shall be retained by Owner for subsequent use elsewhere.

1.5 FIELD CONDITIONS
   A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

   B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

   C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

   D. Hazardous Materials: Hazardous materials may be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
2. See specification Section 011000 and General Conditions.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain and protect underground, in-wall, and above ceiling plumbing and electrical during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that applicable utilities have been located, and disconnected and capped as applicable, before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Comply with requirements for existing services/systems interruptions specified in Division 01 Section "Summary."
B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Where applicable, locate, identify, disconnect, and seal or cap off indicated utility services and systems serving areas to be selectively demolished.

3.3 PREPARATION

A. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

B. Weather Protection: Provide and maintain suitable temporary weather protection at roof, wall, and building openings subject to partial or selective demolition. Weather protection shall include tarps, sheeting, plywood and/or temporary construction as applicable.

C. Building Egress: Consult with local fire jurisdiction regarding required building egress during selective demolition and subsequent construction activities.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

5. Maintain adequate ventilation when using cutting torches.

6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

9. Dispose of demolished items and materials promptly.
B. Existing Items to Remain: Protect construction indicated to remain and building spaces outside limits of construction against damage and soiling during selective demolition.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Roofs and Roofing: Remove roofing, auxiliary materials, and flashings as indicated and required.

B. Roof Sheathing: Remove roof sheathing where indicated on Drawings, and additional roof sheathing panels as directed by Contractor.

C. Fire Sprinkler Piping: Remove piping, couplings, and heads as indicated and required.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose.

   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. This Section includes the following:
       1. Steel brackets
       2. Guy wire stancions
   B. Products furnished, but not installed, under this Section include the following:
       1. Anchor bolts indicated to be cast into concrete or built into unit masonry.

1.3 SUBMITTALS
   A. Shop Drawings: Show fabrication and installation details for metal fabrications.
      1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
      2. Provide templates for anchors and bolts specified for installation under other Sections.
   B. Welding certificates.

1.4 QUALITY ASSURANCE
   A. Welding: Qualify procedures and personnel according to the following American Welding Society (AWS) codes:
      1. AWS D1.1, "Structural Welding Code--Steel."
      2. AWS D1.3, "Structural Welding Code--Sheet Steel."

1.5 PROJECT CONDITIONS
   A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication and indicate measurements on Shop Drawings.
1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating metal fabrications without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

2. Provide allowance for trimming and fitting at site.

1.6 COORDINATION

A. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

B. Coordinate installation of steel weld plates and angles for casting into concrete or building into masonry that are specified in this Section but required for work of another Section. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

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

2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

B. Products by other manufacturers are subject to approval by the Architect prior to bidding.

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces, unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.3 FERROUS METALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Wide Flange Steel: ASTM A 992 / A 992M, Grade 50.

C. Steel Pipe: ASTM A 53/A 53M, Type F or Type S, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.

D. Hollow Structural Sections: ASTM A 500, structural tubing.
2.4 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at other locations.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

C. Anchor Bolts: ASTM F 1554, Grade 36.
   1. Provide hot-dip or mechanically deposited, zinc-coated anchor bolts where item being fastened is indicated to be galvanized.

D. Eyebolts: ASTM A 489.


F. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).

G. Wood Screws: Flat head, ASME B18.6.1.


J. Cast-in-Place Anchors in Concrete: Anchors capable of sustaining, without failure, a load equal to four times the load imposed, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
   1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.

K. Expansion Anchors: Anchor bolt and sleeve assembly with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

2.5 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to American Welding Society (AWS) specifications for metal alloy welded.
B. Shop Primers: Provide primers that comply with Division 09 painting Sections.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.


2.6 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work true to line and level with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
   4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts, unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
   1. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches (3.2 by 38 mm), with a minimum 6-inch (150-mm) embedment and 2-inch (50-mm) hook, not less than 8 inches
(200 mm) from ends and corners of units and 24 inches (600 mm) o.c., unless otherwise indicated.

2.7 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction, unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction retained by framing and supports. Cut, drill, and tap units to receive hardware, hangers, and similar items.

1. Fabricate units from slotted channel framing where indicated.
2. Furnish inserts if units are installed after concrete is placed.

C. Prime miscellaneous framing and supports with zinc-rich primer except where galvanizing is indicated.

2.8 FINISHES, GENERAL

A. Comply with National Association of Architectural Metal Manufacturer’s (NAAMM) "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

2.9 STEEL AND IRON FINISHES

A. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for the Society for Protective Coatings (SSPC) surface preparation specifications and environmental exposure conditions of installed metal fabrications:

2. Interiors (SSPC Zone 1A): SSPC-SP 3, "Power Tool Cleaning."

B. Shop Priming: Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes and those to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
   4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorages and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag bolts, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
   1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

END OF SECTION 055000
SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section covers incidental rough carpentry including but not necessarily limited to the following:

1. Miscellaneous dimensional lumber rough framing.
2. Wood blocking and backing.
3. Roof sheathing and miscellaneous sheathing.
4. Fasteners and hangers.

1.3 DEFINITIONS

A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.

B. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. WWPA: Western Wood Products Association.

1.4 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.

B. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

1. Wood-preservative-treated wood, if required.
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. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
   3. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER


   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

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 American Lumber Standards Committee (ALSC) Board of Review.

D. Application: Treat items indicated on Drawings as “WPT.”

2.3 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

A. General: Where lumber is indicated as preservative-treated wood or is specified herein to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.

B. Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber to a maximum moisture content of 19 percent. Treat indicated items.

   1. All wood members in direct contact with concrete or masonry shall be pressure treated as specified herein.
2.4 DIMENSION LUMBER

A. For non-structural light framing (2” to 4” thick, 2 to 8” wide) including non load bearing plates, blocking, backing, etc.

1. No. 2 and better
   a. Douglas Fir and Douglas Fir-Larch graded under WWPA or WCLIB rules.

B. Moisture content following kiln drying shall not exceed 19 percent.

2.5 SHEATHING

A. Plywood Roof Sheathing: Exterior, Exposure 1, APA Rated sheathing, C-D plugged or better.

2. Nominal Thickness: 5/8” inch (22.2 mm). Verify and match existing sheathing actual thickness.
3. Edge Condition: Square.

B. Miscellaneous Plywood Sheathing: Exterior, Exposure 1, C-D plugged or better.

1. Nominal Thickness: Not less than 3/8”.
2. Edge Condition: Square.

2.6 FASTENERS

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

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.


E. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).

F. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

G. Fastening Requirements: Fastener types, sizes, and spacings shall be as specified on Drawings and per requirements of the 2012 International Building Code.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate blocking, backing, plates, nailers and similar supports to comply with requirements for attaching other construction.

B. Provide blocking, backing, plates, and nailers as indicated and as required to support facing materials, fixtures, specialty items, trim, and other items as indicated.

C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use copper naphthenate.

E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated on Drawings and as required by the 2012 Edition of the IBC.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, where indicated. Provide washers at all nuts.

C. Use preservative treated lumber for all members in direct contact with concrete or masonry, regardless of whether sill sealer gasket is used. Ledgers and studs attached to CMU walls may be separated with building paper if preservative treated lumber of type and size indicated is not available.
3.3. WOOD FRAMING, GENERAL


B. Anchor and nail as shown, and to comply with the most restrictive provisions of the following:

3. Published requirements of manufacturers of engineered framing members, proprietary sheathing products, and metal framing anchors.

C. Do not splice structural members between supports.

3.4. WOOD STRUCTURAL PANEL INSTALLATION


B. Fastening Methods: Fasten panels as indicated below:

1. Roof Sheathing:
   a. Nail to wood trusses and related roof framing.
   b. Space panels 1/8 inch (3 mm) apart at edges and ends.
   c. Refer to notes on the Drawings for nail type, size, and spacing.
   d. Install roof sheathing with ply clips at unsupported edges.

END OF SECTION 061000
SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Standing-seam metal roof panels.
   2. Underlayment materials.
   3. Other components of metal roof panel system.
   4. Snow guards.

1.3 DEFINITIONS

A. Metal Roof Panel Assembly: Metal roof panels, attachment system components, miscellaneous metal framing, thermal insulation, and accessories necessary for a complete weathertight roofing system.

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Delegated Design: Design metal roof panel assembly, including comprehensive engineering analysis by a qualified professional engineer currently licensed to practice structural engineering in the State of Idaho, using performance requirements and design criteria indicated, is the responsibility of the roof panel manufacturer.

C. Air Infiltration: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of roof area when tested according to ASTM E 1680 at the following test-pressure difference:

D. Water Penetration: No water penetration when tested according to ASTM E 1646 as follows:
   1. Test-Pressure Difference: 12 lbf/sq. ft.

E. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with the following:
   1. The determination of required wind uplift resistance and panel attachments shall be the responsibility of the roof panel manufacturer, including comprehensive engineering analysis per Paragraph 1.4.B. above.
2. Wind uplift calculations shall conform to American Society of Civil Engineers (ASCE) ASCE 7-02. System attachment calculations shall be based on such wind uplift calculations and on component / system test results per ASTM E 1592.

F. Structural Performance: Provide metal roof panel assemblies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:

1. Wind Loads: Determine loads according to ASCE 7-02.
2. Roof Snow Loads: 30 lb/sq. ft.

G. Thermal Movements: Allow for unlimited thermal movements resulting from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 degrees F, ambient; 180 degrees F, material surfaces.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of roof panel and accessory.

B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and endlap joints, panel profiles, corners, all anchorages, trim, flashings, counter flashings, reglets, coping, penetrations, curb flashings, closures, and accessories; and special details including hip and valley details. Distinguish between factory and field-assembled work.

1. Shop drawings shall be prepared by, and shall carry the seal of, a professional engineer currently licensed to practice structural engineering in the State of Idaho.
2. Shop drawings shall include complete roof plans indicating exact locations of all panel clips, anchors, etc.
3. Shop drawings shall completely detail the following:
   a. All miscellaneous metal framing required. All attachments of such framing shall be indicated.
   b. All roofing system clips, anchors, etc., together with bearing plates and all fasteners, shall be indicated.
   c. All edge and upper edge attachments shall be fully detailed, including structural attachments and fasteners required to resist drag loads.
   d. All roof edge and eave attachments shall be fully detailed.
   e. All roof edge, upper edge, edge and eave flashing details.
   f. All curb and other penetration flashings.
   g. All other components of the roofing system.
4. Shop drawings shall be specific to the conditions encountered for this project. Shop drawings which rely solely on standard details will be returned without action. Refer to the Drawings for substrates to which metal roof panel system is attached.
C. Structural Calculations: Provide complete structural calculations for the roofing system prepared by, and carrying the seal of, a professional engineer currently licensed to practice structural engineering in the State of Idaho. Such structural calculations shall include calculations necessary to support all conditions indicated on the system Shop Drawings. Structural calculations shall be based on the requirements of Paragraph 1.4 above. Such calculations shall include thermal expansion/contraction calculations.

D. Samples for Selections: For each type of metal roof panel indicated with factory-applied color finishes.

E. Manufacturer Certificates: Signed by manufacturer certifying that roof panels comply with performance requirements specified in "Performance Requirements" Article.

  1. Submit evidence of meeting performance requirements.

F. Qualification Data: For qualified installer and professional engineer.

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

H. Warranties: Samples of warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Testing Agency Qualifications: The testing agency utilized by the metal roof panel manufacturer to determine its system performance shall be qualified according to ASTM E 329 for testing indicated.

C. Source Limitations: Obtain each type of metal roof panels from single source from single manufacturer.

D. All roof panels shall be continuous from eave to ridge. On site panel fabrication is required. Such fabrication shall be done using roof panel manufacturer owned portable, plant quality equipment operated by factory trained personnel.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

  1. Build mockup of typical roof field area, including anchors, insulation, steel deck, and other components. Build mockup of typical ridge, typical upper ridge and typical valley, including engineered anchoring requirements. Build markup of typical curb flashing.

  2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

F. Preinstallation Conference: Conduct conference at the project site immediately prior to beginning roof panel installation.
1. Meet with Contractor, Architect, the Owner’s inspecting agency representative (optional), metal roof panel Installer and metal roof panel manufacturer's authorized technical representative.
2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review methods and procedures related to metal roof panel installation, including manufacturer's written instructions.
4. Examine deck substrate conditions for compliance with requirements, including flatness and attachment to structural members.
5. Review structural loading limitations of deck during and after roofing.
6. Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roof panels.
8. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.
9. Review temporary protection requirements for metal roof panel assembly during and after installation.
10. Review roof observation and repair procedures after metal roof panel installation.
11. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.
12. The contractor shall remove portions of any previously installed roof assemblies below the metal roof panels, sufficient to allow verification of proper installation and to replace such assemblies following inspections.

G. Inspections and Reports by Technical Representative

1. The roof panel manufacturer’s technical representative shall make field inspections of the roofing work in progress as required to allow specified warranties to be issued. Such technical representative shall submit reports of inspections to the parties named in Paragraph 1.6.F.1. above. Such reports shall include reports of observations, instructions given, remedial action required, and a statement that the work is or is not done in a manner that will allow required warranties to be issued.
2. The roof panel manufacturer’s technical representative shall inform the Architect at least three days in advance of his scheduled inspections.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, metal roof panels, and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.

B. Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect strippable protective covering on metal roof panels from exposure to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.
1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.9 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

B. Coordinate metal roof panels with rain drainage work, flashing, trim, and construction of decks, parapets, walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTIES

A. Special Warranty on Panel Finishes: Provide the metal roof panel manufacturer's written warranty in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.
3. Provide two copies with original signatures.

B. Special Weathertightness Warranty: Provide the metal roof panel manufacturer's written warranty in which manufacturer agrees to repair or replace metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period, at no additional cost to the Owner.

1. Weathertight Warranty Period: 20 years from date of Substantial Completion.
2. Provide two copies with original signatures.

C. Special Project Warranty: Submit roofing Installer’s warranty, on warranty form included in Project Manual following this Section, signed by Installer, covering the Work of this Section, including weathertightness and all components of metal panel roofing system for the following warranty period:

1. Warranty Period: Three years from date of Substantial Completion.
2. Provide two copies with original signatures.
PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, structural quality.
2. Surface: Smooth flat finish.
3. Exposed Coil-Coated Finish:
   a. Metallic or Metallescent Fluoropolymer: AAMA 621. with coat fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
4. Concealed Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

B. Panel Sealants:

1. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311, and as recommended in writing by roof panel manufacturer.

2.2 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: 30 to 40 mils (0.76 to 1.0 mm) thick minimum, consisting of slip-resisting, polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

3. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
4. Products: Subject to compliance with requirements, provide one of the following:
5. Products by other manufacturers are subject to approval by Architect prior to bidding.

2.3 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.
2.4 STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for installation by mechanically attaching panels to supports using concealed cleats located under panels and mechanically seaming panels together, with or without seam covers.

1. Basis-of-Design Metal Roof Panel System: Subject to compliance with requirements, provide the following:
   a. Berridge, Zee-Lock panel system with continuous in seam cleats and continuous factory applied in seam weather seal.

2. Metal roofing systems by other manufacturers are subject to approval prior to bidding.

3. Material: Coated steel sheet per paragraph 2.1.A Above, 24 ga. nominal thickness.
   b. Color: As selected by Architect from any of manufacturer’s available colors (not metallic).
   c. Panel Width: 1’-4” panel coverage.
   d. Standing Seam Height: 2 inches, minimum.
   e. Anchor Cleats: Manufacturer’s continuous cleats designed to accommodate thermal movement indicated by structural calculations (verification required).
   f. Sealant: In seam continuous gasket, factory applied.

2.5 ACCESSORIES

A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

B. Flashing and Trim: Refer to Division 07 Specifications Section – “Sheet Metal Flashing and Trim”.

2.6 FABRICATION
A. Fabricate and finish metal roof panels and accessories by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Fabricate metal roof panel side laps with factory-installed captive gaskets that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

2.7 FINISHES
A. Comply with National Association of Architectural Metal Manufacturers’ "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the Work.

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

3.2 PREPARATION
A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.
3.3 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated on Drawings, wrinkle free, in shingle fashion to shed water, with 3 inch side laps and with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

3.4 METAL ROOF PANEL INSTALLATION, GENERAL

A. Provide metal roof panels of full length from eave to ridge or upper edge.

B. Thermal Movement. Rigidly fasten metal roof panels to structure at ridges. Allow remainder of panel to move freely for unlimited thermal expansion and contraction. Predrill panels for fasteners.

1. Fasten metal roof panels in accordance with manufacturer’s engineered shop drawings supported by engineer’s calculations.

2. Avoid attaching accessories through roof panels in a manner that will inhibit thermal movement.

C. Install metal roof panels as follows:

1. Install roof panel system in accordance with manufacturer’s printed instructions and approved shop drawings with field mechanical seaming.

2. Field cutting of metal panels by torch is not permitted.

3. End Splices: Not permitted

D. Fasteners:

1. Steel Roof Panels: Use stainless-steel fasteners for surfaces exposed to the exterior and galvanized-steel fasteners for surfaces exposed to the interior.

2. Sizes and spacings of fasteners shall conform to roof panel manufacturer’s engineered shop drawings and details. Retain first paragraph below for metal panel systems that anchor to substrates with a clip system.

E. Anchor Cleats: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners and continuous in seam cleats according to manufacturers' written instructions.

F. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.
3.5 METAL ROOF PANEL INSTALLATION

A. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer and in accordance with roof panel manufacturer’s engineered shop drawings and details.

   1. Install cleats to supports with self-tapping fasteners.
   2. Field Seaming: Fully interlock seam system, including gaskets, and mechanically seam joints full length of panels in accordance with manufacturer’s printed instructions.

3.6 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

   1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, pipe boots, and similar items.

B. Curb flashings provide curb flashings at all locations of mechanical equipment indicated on mechanical drawings. Install flashing around bases where they meet metal roof panels.

C. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.7 FIELD QUALITY CONTROL

A. Manufacturer’s Field Service: Engage a factory-authorized technical representative to inspect metal roof panel installation, including accessories, during roofing installation as required to qualify the roofing assemblies for required warranties. Report results in writing.

D. Remove and replace applications of metal roof panels where inspections indicate that they do not comply with specified requirements.

E. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.8 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal
roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair. Repair minor scratches, etc., by finish touchup or similar minor repair procedures.

END OF SECTION 074113
ROOFING WARRANTY

WHEREAS ______________________________________

Of (Address) ______________________________________

herein called the "Roofing Contractor", has performed roofing and associated ("work") on following project:

Owner: ____________________________________________

Address: __________________________________________

Name and Type of Building: ___________________________

Address: __________________________________________

Area of Work: __________ Date of Acceptance: __________

Warranty Period: _______ Two (2) years _______ Date of Expiration: __________

AND WHEREAS Roofing Contractor has contracted (either directly with Owner or indirectly as subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period.

NOW THEREFORE Roofing Contractor hereby warrants, subject to terms and conditions herein set forth, that during Warranty period he will at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work, and as are necessary to maintain said work in watertight condition.

In addition to making the work watertight, the Roofing Contractor shall remove and / or repair blisters, ridges, flashings, splits and other irregularities which in the opinion of the Roofing Manufacturer's technical representative do not conform to acceptable roofing practices and conditions. These repairs shall be made prior to expiration of the two (2) year Warranty period and to the satisfaction of the Roofing Manufacturer's technical representative.

1. This Warranty is made subject to the following terms and conditions:
Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by: a) lightning; windstorm; b) fire; c) Failure of roofing deflection, deterioration, and decomposition; d) faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work; and e) activity on roofing by others including construction contractors, maintenance personnel, other persons, and animals whether authorized or unauthorized by Owner.

When Work has been damaged by any foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Contractor, and until cost and expense thereof has been paid by Owner or by another responsible party so designated.

2. The Roofing Contractor is responsible for damage to work covered by this Warranty, but is not consequential to damages to building or building contents, resulting from leaks or faults or defects of work.

3. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Contractor, including cutting, patching and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void upon date of said alterations, but only to extent said alterations affect work covered by this Warranty. If Owner engages Roofing Contractor to perform said alterations, Warranty shall not become null and void, unless Roofing Contractor, prior to proceeding with said work, shall claim that said alterations would like damage or deteriorate work, thereby reasonably justifying a limitation of termination of this Warranty.

4. During Warranty period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void upon date of said change, but only to extent said change affects work covered by this Warranty.

5. The Owner shall promptly notify Roofing Contractor of observed, known or suspected leaks, defect or deterioration, and shall afford reasonable opportunity for Roofing Contractor to inspect work, and to examine evidence of such leaks, defects or deterioration.
6. This Warranty is recognized to be the only Warranty of Roofing Contractor on said work, and is in addition to the Roofing Guarantee furnished by the Roofing Manufacturer, and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to him in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Contractor of responsibility for performance of original work in accordance with requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

IN WITNESS THEREOF, this instrument has been dully executed this:

Day of, ______________________, 20________________

Cosigned by General Contractor By:

________________________  __________________________
(General Contractor)     (Roofing Contractor)

________________________  __________________________
(Business Address)        (Business Address)

________________________  __________________________
(Signature)               (Signature)

________________________  __________________________
(Title)                   (Title)
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Manufactured Products:
   a. Manufactured reglets, cleats, and counterflashings (as required).

2. Formed Products:
   a. Formed flashings and other sheet metal fabrications.

1.3 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies as indicated shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Thermal Movements: Provide sheet metal flashing and trim that allows for thermal movements from ambient and surface temperature changes.

   1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory, including prefinished metal materials.

B. Samples for Selection: For each type of sheet metal flashing, trim, and accessory indicated with factory-applied color finishes involving color selection, 3” x 5” size samples of requested colors.

C. Qualification Data: For qualified fabricator.
1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

B. Sheet Metal Flashing and Trim Standard: Comply with Sheet Metal and Air Conditioning Contractors National Association’s (SMACNA) "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

1.7 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

B. Metallic-Coated Steel Sheet: Restricted flatness steel sheet, metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation; structural quality.
2. **Aluminum-Zinc Alloy-Coated Steel Sheet**: ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40 (Class AZM150 coating designation, Grade 275); structural quality.

3. **Surface**: Smooth, flat

4. **Exposed Coil-Coated Finish**: (Prefinished Steel):
   a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions, or
   b. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

5. **Color for prefinished steel**: Color shall be selected by Architect from manufacturer’s standards.

### 2.2 MISCELLANEOUS MATERIALS

A. **General**: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal 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.
      b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
   2. **Fasteners for Zinc-Coated (Galvanized) or Aluminum-Zinc Alloy-Coated Steel Sheet**: Hot-dip galvanized steel according to ASTM A153/A153M or ASTM F 2329 or Series 300 stainless steel.

C. **Solder**:
   1. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.

D. **Sealant Tape**: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Butyl Sealant: ASTM C 1311, 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 complying with ASTM D 1187.


2.3 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing, trim, and roof drainage items to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply and to design, dimensions, geometry, metal thickness, and other characteristics of item indicated on the Drawings. Fabricate items at the shop to greatest extent possible.

1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that indicated for each application.
2. Obtain field measurements for accurate fit before shop fabrication.
3. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

D. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints. Cover gutter joints and gutter ends with single piece of uncured EPDM material fully adhered to bottom and sides of gutter.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Seams: Fabricate nonmoving seams in prefinished steel sheet 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. Cover gutter joints and gutter ends with single piece of uncured EPDM material fully adhered to bottom and sides of gutter.

G. Do not use graphite pencils to mark metal surfaces.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.

1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
4. Install sealant tape where indicated.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.

1. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
D. Seal joints as shown and as required for watertight construction at gutters, seal with uncured EPDM fully adhered to inside surfaces.

E. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except reduce pre-tinning where pre-tinned surface would show in completed Work.

F. Rivets: Rivet joints where indicated and where necessary for strength.

3.3 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.4 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200
SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Ridge vents

1.3 PERFORMANCE REQUIREMENTS

A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

1.4 SUBMITTALS

A. Product Data: For each type of roof accessory indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1.5 COORDINATION

A. Coordinate layout and installation of roof accessories with roofing membrane and flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

B. Verify dimensions of roof hatch to be compatible with existing curb and opening dimensions.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.

B. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened.
Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:

1. Fasteners for Zinc-Coated or Aluminum-Zinc Alloy-Coated Steel: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153/A 153M or ASTM F 2329.

C. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.

2.2 RIDGE VENTS

A. Type: Water tight two in one vent and closure ridge vent.

B. Material: 26 gauge Galvalume SS Grade 50, AZ55 Acrylic

C. Size/Profile: As selected by Architect from Manufacturer’s complete line and custom size available upon request.

D. Basis of Design Product: Provide the following.

‘EZ Vent N Closure,’ manufactured by Custom Metal Components, Inc.

2. Products by other manufacturers are subject to approval prior to bidding.

2.3 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

C. Verify dimensions of roof openings for roof accessories.

D. Proceed with installation only after unsatisfactory conditions have been corrected.
3.2 INSTALLATION

A. General: Install roof accessories according to manufacturer's written instructions.

B. Roof-Hatch Installation:
   1. Install roof hatch so top surface of hatch curb is level.
   2. Verify that roof hatch operates properly. Clean, lubricate, and adjust operating mechanism and hardware.
   3. Attach ladder-assist post according to manufacturer's written instructions.

C. Piping and Conduit Supports Installation:
   1. Install piping and conduit supports in quantities and in locations indicated on Drawings.
   2. Install piping and conduit supports in accordance with manufacturers printed instructions.

3.3 REPAIR AND CLEANING

A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.

B. Touch up factory-primed surfaces with compatible primer ready for field painting.

C. Clean exposed surfaces according to manufacturer's written instructions.

D. Clean off excess sealants.

E. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200
SECTION 220010 - PLUMBING GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 SCOPE
A. Provide all labor and materials as required for all items of plumbing work as shown on the Drawings and / or as specified herein.

1.3 EXAMINATION OF SITE
B. The Contractor shall thoroughly examine the site and satisfy himself to the conditions under which the work is to be performed. The Contractor shall verify at the site all measurements affecting his work and shall be responsible for the correctness of same. No extra compensation will be allowed to the Contractor for the expenses due to his neglect to examine or failure to discover conditions which affect his work. No extra compensation will be allowed on account of difference between actual dimensions and those indicated on the Drawings.

1.4 RULES AND REGULATIONS
A. All work and materials shall be in full accordance with all applicable Federal, State and local rules and regulations and adopted codes and standards. Nothing in the Drawings or specifications shall be construed to permit work not conforming to these codes.
B. Furnish without charge, any additional material and labor when and where required to comply with these rules and regulations, though the work may not be mentioned in specifications or shown on Drawings. When specifications or Drawings call for or describe materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provisions of the specifications and accompanying Drawings shall take precedence.

1.5 FEES AND PERMITS
A. Provide, procure and pay for all permits, licenses, certificates, inspections, etc. required to carry out and complete the Work.

1.6 INSPECTION
A. Do not allow any work to be covered up or enclosed until inspected, tested and approved by Architect or other authorities having jurisdiction over the work.
B. Should any work be enclosed or covered up before such inspection and test, Contractor shall, at his own expense, uncover work, and after it has been inspected, tested, and approved, make all repairs as necessary to restore all work disturbed by him to its original condition.

C. Protect materials and equipment furnished under this Section, either stored or installed, until final acceptance of the project as a whole.

1.7 INTERRUPTION OF SERVICES

A. Interruption of any existing services shall be kept to a minimum. Shut down shall be made only with approval of and at times designated by Owner. Contractor shall include overtime work cost in his bid for this work.

1.8 DAMAGE BY LEAKS, ETC

A. Be responsible for all damage to any part of the premises or work of other Contractor caused by leaks or breaks in piping or equipment furnished, installed, or reinstalled under this section during construction and general warranty period.

1.9 CLEANING AND CLOSING

A. Inspect all piping and equipment before placing and clean before closing. All piping shall be closed at end of each day's work.

END OF SECTION 220010
SECTION 230010 - HVAC GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SCOPE

A. Provide all labor and materials as required for the removal and alteration of existing HVAC equipment and/or ductwork to allow roofing operations, replacement and restoration to function of such equipment and ductwork and other items of HVAC work, as shown on the Drawings and/or as specified herein. Reinstallation of equipment shall include extensions of ductwork, tubing, piping, etc. as required and recharging of refrigerant lines, if and as applicable.

B. Refrigerant piping shall be replaced with new from the connection at the fan coil to the connection at the condensing unit. Refrigerant piping shall be manufacturer’s standard line sets, in lengths as required for proper installation. Coiling of excess tubing will not be acceptable.

1.3 EXAMINATION OF SITE

B. The Contractor shall thoroughly examine the site and satisfy himself to the conditions under which the work is to be performed. The Contractor shall verify at the site all measurements affecting his work and shall be responsible for the correctness of same. No extra compensation will be allowed to the Contractor for the expenses due to his neglect to examine or failure to discover conditions which affect his work. No extra compensation will be allowed on account of difference between actual dimensions and those indicated on the Drawings.

1.4 RULES AND REGULATIONS

A. All work and materials shall be in full accordance with all applicable Federal, State and local rules and regulations and adopted codes and standards. Nothing in the Drawings or specifications shall be construed to permit work not conforming to these codes.

B. Furnish without charge, any additional material and labor when and where required to comply with these rules and regulations, though the work may not be mentioned in specifications or shown on Drawings. When specifications or Drawings call for or describe materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provisions of the specifications and accompanying Drawings shall take precedence.

1.5 FEES AND PERMITS

A. Provide, procure and pay for all permits, licenses, certificates, inspections, etc. required to carry out and complete the Work.
1.6 INSPECTION
A. Do not allow any work to be covered up or enclosed until inspected, tested and approved by Architect or other authorities having jurisdiction over the work.
B. Should any work be enclosed or covered up before such inspection and test, Contractor shall, at his own expense, uncover work, and after it has been inspected, tested, and approved, make all repairs as necessary to restore all work disturbed by him to its original condition.
C. Protect materials and equipment furnished under this Section, either stored or installed, until final acceptance of the project as a whole.

1.7 INTERRUPTION OF SERVICES
A. Interruption of any existing services shall be kept to a minimum. Shut down shall be made only with approval of and at times designated by Owner. Contractor shall include overtime work cost in his bid for this work.

1.8 DAMAGE BY LEAKS, ETC
A. Be responsible for all damage to any part of the premises or work of other Contractor caused by leaks or breaks in equipment, ductwork, tubing, etc. furnished, installed, or reinstalled under this section during construction and general warranty period.

1.9 CLEANING AND CLOSING
A. Inspect all equipment and ductwork before placing and clean before closing. All ductwork shall be closed at end of each day's work.

END OF SECTION 230010
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SCOPE

A. The Contractor shall provide all labor and materials as required to disconnect electric power to all items of mechanical equipment to be removed and reinstalled to accommodate roofing operations and to reconnect electrical power to such equipment when it is reinstalled including extensions of conduit, conductors, etc. as required. The Contractor shall also accomplish such other items of electrical work as are shown on Drawings and / or as specified herein. Reinstallation shall include extensions of conduit and conductors as required.

1.3 PERMITS, FEES, AND INSPECTION

Provide, procure, and pay for all permits, licenses, certificates, inspections, etc. required to carry out and complete the Work.

1.4 RULES AND REGULATIONS

A. All work shall conform to latest rules and regulations of National Electrical Code, latest edition, and all applicable state and local codes. Should any part of the design fail to comply with such requirements, discrepancy shall be called to the attention of the Architect prior to submission of bid.

1.5 EXAMINATION OF SITE

A. The Contractor shall thoroughly examine site and satisfy himself as to the conditions under which the work is to be performed. The Contractor shall verify at the site all measurements affecting his work and shall be responsible for the correctness of same. No extra compensation will be allowed to the Contractor for the expenses due to his neglect to examine or failure to discover conditions which affect his work. No extra compensation will be allowed on account of difference between actual dimensions and those indicated on the Drawings.

1.6 MEASUREMENTS

A. Before ordering any material or closing in any work, verify all measurements on the job. Any difference found between dimensions on Drawings and actual measurements shall be brought to Architect's attention before proceeding.
1.7 TESTS

A. Test each individual reconnected circuit with equipment connected for proper operation and for grounds and shorts.

B. Ground tests shall meet requirements of National Electric Code.

END OF SECTION 260010