Project Manual for

City of River Falls
Roof Replacement Projects

RIVER FALLS CITY HALL
222 LEWIS STREET
RIVER FALLS, WISCONSIN

RIVER FALLS PUBLIC LIBRARY
140 UNION STREET
RIVER FALLS, WISCONSIN

July 6, 2023

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Introductory Information

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PROJECT MANUAL

FOR

City of River Falls
Roof Replacement Projects

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222 LEWIS STREET
RIVER FALLS, WISCONSIN

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JULY 6, 2023

AYRES

215 N. Second Street, Suite 204
River Falls, WI 54022
715.426.4908 • Fax: 715.426.5866
www.AyresAssociates.com

Ayres Project No. 08-2007.00

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SECTION 00 01 03

PROJECT DIRECTORY

Owner:	City of River Falls 222 Lewis Street River Falls, Wisconsin 54022 Contact: Tom Schwalen Phone: (715) 821-0096 Email: tschwalen@frcity.org
Architect:	Ayres Associates 215 North Second Street, Suite 204 River Falls, Wisconsin 54022 Contact: Mark Paschke, NCARB, LEED AP Phone: 715-831-7552 (Direct) E-mail: PaschkeM@AyresAssociates.com

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SECTION 00 01 05

CERTIFICATIONS PAGE

Architect:

I hereby certify that this Plan, Specification, or Report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Wisconsin.

Signed Mark Paschke Date 8/16/23

Printed Name MARK PASCHKE Reg. No. A-9082

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SECTION 00 01 11

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Bidding Requirements

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ADVERTISEMENT FOR BIDS

PROJECT: City of River Falls: City Hall Building, 222 Lewis Street and Public Library, 140 Union Street Roof Replacement Projects
River Falls, Wisconsin 54022

BID DEADLINE: August 31, 2023
2:00 P.M. Local Time

NOTICE IS HEREBY GIVEN:

Sealed bids for the above project will be received by the Owner, the City of River Falls, until the Bid Deadline. Immediately thereafter, the bids will be publicly opened, and read aloud. Bids may be submitted in paper format delivered to Amy White, City Clerk, City of River Falls, 222 Lewis Street, River Falls, WI 54022, for both the City Hall Building and the Public Library Roof Replacement Project.

In general, the project consists of the following:
Providing all materials and labor for complete re-roofing of the River Falls City Hall Building and the Public Library as described in the Construction Documents prepared by Ayres Associates dated July 6, 2023.

Proposals shall be based on American Institute of Architects Document A101 – 2017 “Standard Form of Agreement Between Owner and Contractor where the basis of payment is a “Stipulated Sum” for the City of River Falls City Hall and Public Library Re-Roofing.

Bids must be accompanied by a Bid Security (Certified Check or Bid Bond) in the amount of ten percent (10%) of the maximum bid amount made payable to the Owner, as a guarantee that the bidder will enter into a contract and furnish bonds. Bid and Bid Security may not be withdrawn for a period of forty-five (45) days after the bid deadline. Bid Security will be retained if the bidder is awarded the Work and fails to execute the Agreement and furnish 100% Performance and Payment Bonds.

Bidders who have not submitted qualifications to the Owner in the last 12 months, shall submit a Statement of Bidder’s Qualifications, see specification, with their bid.

The Owner reserves the right to reject any or all bids and to waive informalities in any bid.

Bidding Documents may be examined at the office of the Architect: Ayres Associates, 215 North Second Street, Suite 204, River Falls, Wisconsin 54022: Phone: (715) 831-7552.

Digital copies of the Bidding Documents are available for download from the City’s website: https://www.rfcity.org/266/Bids-RFPs.

It is the proposing Contractor’s responsibility to make itself familiar with the complete set of Contract Documents and existing jobsite conditions; neither the Owner, or the Architect, assumes responsibility for errors or omissions resulting from the use of an incomplete set of Bid Documents.

Published by authority of: City of River Falls, Wisconsin.

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SECTION 00 21 11

INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.01 INSTRUCTIONS TO BIDDERS

A. American Institute of Architects Document A701™–1997 “Instructions to Bidders” is hereby made a part of this Project Manual and is incorporated herein by reference. This copyrighted document is available for review at the office of the Architect between the hours 9:00 A.M. and 4:00 P.M. Monday through Friday.

1. Copies of this document may be purchased from:

a. AIA Wisconsin, 321 S. Hamilton Street, Madison, Wisconsin 53703-4000.

1) Phone: (608) 257-8477.
2) Web: www.aiaw.org.

b. AIA Minnesota, 275 Market Street, Suite 54, Minneapolis, MN 55405.

1) Phone: (612) 338-6763.
2) Web: www.aia-mn.org.

1.02 RELATED SECTIONS

A. Section 00 21 13 – Supplementary Instruction to Bidders.

PART 2 - (NOT USED)

PART 3 - (NOT USED)

END OF SECTION

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SECTION 00 21 13

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.01 SUMMARY

A. The following documents shall be completed and submitted with each bid:

1. Bid Form
2. Bid Security
3. Statement of Bidder's Qualifications (if not submitted to Owner in the last 12 months)

1.02 PREPARATION OF BIDS

A. Bids shall be prepared on the form provided in this Project Manual and submitted as specified. Bids will be received for the contract(s) listed on the Bid Form. All blank spaces for bid prices shall be completed, in ink or typewritten, in both words and figures where provided. In case of discrepancy, written words shall govern over figures for lump sum bids and unit prices shall govern over extended amounts for unit price bids. Bidder must sign the bid.

B. Bids may be rejected for the following reasons: alterations of the form, additions to the form, alternates not specified, incomplete bids, erasures, unbalanced prices, and irregularities of any kind.

C. Submit original Bid Form and required supporting documents in a sealed envelope. Remove Bid Form from Project Manual; do not submit entire Project Manual. Mark the exterior of the envelope as follows:

BID
(Project Name)
(Bidder's Name and Address)

D. If forwarded by mail, the sealed envelope containing the bid shall be enclosed in another envelope addressed as specified.

1.03 BIDDING DOCUMENTS

A. Digital copies of the Bidding Documents are available for download from the City's website: https://www.rfcity.org/266/Bids-RFPs.

B. Bidding documents may be examined at the office of the Architect, Ayres Associates, 215 North Second Street, Suite 204, River Falls WI 54022.

1.04 WITHDRAWAL OR MODIFICATION OF BID

A. Unless prohibited by laws and regulations, a bid may be withdrawn by an appropriate document duly executed in the same manner that a bid must be executed and delivered to the place where bids are to be submitted prior to the Bid Deadline. Upon receipt of such notice, the unopened bid will be returned to the bidder.

B. If a bidder wishes to modify its bid prior to the Bid Deadline, bidder must withdraw its initial bid in the manner specified above and submit a new bid prior to the Bid Deadline.

C. Thereafter, a bid may not be withdrawn or modified during the bid holding period specified in the Advertisement for Bids/Invitation to Bid.

1.05 QUALIFICATIONS OF BIDDER

A. Before the award of any contract, the Owner shall be satisfied that the bidder, (a) maintains a permanent place of business, (b) has adequate equipment to do the work properly and expeditiously, (c) has a suitable financial status to meet obligations incident to the work, (d) has appropriate technical experience, and (e) has satisfactorily completed contracts of similar nature and magnitude.

B. If requested, the apparent low bidder shall submit evidence of qualifications to Owner prior to award of contract.

C. A bidder who has not formally qualified with the Owner for similar work within 12 months previous to the Bid Deadline shall do so by filing a Bidder's Proof of Responsibility form supplied by the Owner. Bidder's Proof of Responsibility form according to Mn. Stat. 16C.285 shall be filed with the Owner five days before the Bid Deadline.

1.06 ADDENDA AND INTERPRETATIONS

A. No binding interpretation of the meaning or intent of the drawings, specifications, or other bidding documents will be made to any bidder orally. Requests for such interpretation shall be made to Ayres in writing. Requests received less than 7 days prior to the Bid Deadline will not be answered. Interpretations or clarifications considered necessary by A/E in response to such requests will be issued by addenda mailed or delivered to all parties recorded by A/E as having received the bidding documents. All addenda so issued shall become part of the bidding documents and shall be acknowledged with the bid. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under this bid as submitted.

1.07 SUBSTITUTIONS (BID PHASE)

A. Bids shall be based on those products, materials, and equipment specified or described in the bidding documents, or those substituted or "or equal" items approved by addendum.

B. Products, materials, and equipment identified in the bidding documents by reference to a manufacturer's name, catalog number, or model are identified for the purpose of establishing a standard of type, function, appearance, and quality. Bidders desiring to submit bids for manufacturers or products not previously named shall submit a substitution request for approval not later than 10 days prior to the Bid Deadline.

C. Requests for substitution of alternate products or use of "or equal" items shall be submitted with complete references to manufacturer's product identification and specification data indicating composition, guarantee, availability, applicable standards or agency approvals met or exceeded, restrictions imposed on product, and manufacturer's recommended method of application or installation. A substitution or an "or equal" item will be considered acceptable if the product will perform adequately the duties imposed by the general design and, in the opinion of the A/E, is of equal substance, quality, appearance, and function, unless the named item is necessary for interchangeability or if the named product has been demonstrated to be most cost-effective. If approved by addendum, the requested substitution or "or equal" item may be included in the Contract Bid amount.

D. The responsibility for all revisions to the work required by substitutions shall be borne solely by the Contractor who utilizes the substitution, including the following:

1. Additional work by other contractors.
2. Changes to the building structure or room sizes.
3. Additional associated devices, connections, wiring, etc.

4. Properly notifying other contractors as to the effect of such substitutions on their contract.
5. Redesign.

1.08 PRODUCT AND MATERIAL AVAILABILITY

A. Prior to the Bid Deadline, verify that specified products and materials will be available for timely inclusion in the work. Should any item not be available, notify A/E. Extra costs resulting from delays caused by failure to determine availability of specified items shall be borne by the Contractor.

1.09 SALES AND USE TAXES

A. As allowed by Wisconsin law, the Owner is exempt from Wisconsin State Sales Tax for building materials for this Project. Bid proposals shall include the cost of (a.) labor and incidental materials and (b.) proposed Owner purchased materials, minus State Sales Tax, for all construction work shown on the Drawings and contained in the Project Manual. The Owner's acceptance of one proposal is not contingent upon the other.

B. The Contractor shall perform as an agent of the Owner acting in the interest of the Owner, in securing all materials for the Project, (except those explicitly listed as provided by Owner or others), including approving, scheduling, coordinating, delivering, protecting, installing and warranting such materials.

C. The General Contractor shall be responsible for the coordination and paperwork to document tax exempt materials.

1.10 COMBINED BIDS

A. Bidders may submit a combined bid comprised of any two or more base bids requested on the Bid Form. Bidders who elect to submit a combined bid shall designate, in the spaces provided on the Bid Form, the title of each base bid comprising his combined bid. The combined bid is provided as an option which the bidder may elect or reject without invalidating his bid.

B. Bidders who submit a combined bid must also submit prices for applicable alternate bids, if any, for work pertaining to the combined bid.

C. To receive consideration for award of individual prime contracts, bidders who submit a combined bid must also submit separate bids for each of the contracts they desire considered. Failure to submit separate base bids will not invalidate the combined bid. The total amount of the separate base bids need not equal the combined bid.

1.11 LIST OF SUBCONTRACTORS

A. Bidders are required to submit, with the Bid Form, a list of subcontractors. Failure to complete this list may be considered cause to recommend rejection of the bid.

B. Bidders are specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract must be acceptable to the Owner. If Owner, after due investigation, has reasonable objection to any proposed subcontractor or supplier, Owner may, before the Notice of Award is given, request apparent successful bidder to submit a substitute without an increase in the bid. If apparent successful bidder declines to make any such substitution, the Owner may award the Contract to the next lowest bidder that proposes to use acceptable subcontractors and suppliers. Declining to make requested substitutions will not constitute grounds for forfeiture of the bid security of any bidder.

1.12 SUBMISSION OF POST-BID INFORMATION

A. Upon request, the selected bidder shall within seven days thereafter submit the following:

1. A statement of costs for each major item of Work included in the bid.
2. A designation of the Work to be performed by the bidder with his own forces.
3. A list of names of the subcontractors, product suppliers/manufacturers, or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

1.13 AWARD OF CONTRACT

A. A single prime contract will be awarded on the basis of lowest responsible, responsive total bid amount in the Owner's best interests.

B. The Owner reserves the right to reject any or all bids, including bids which, in the opinion of the Owner, are excessive or not sufficient to properly carry out the work. The Owner reserves the right to reject the bid of bidders who have previously failed to properly perform or complete on time contracts of similar nature.

1.14 PRE-BID MEETING

A. Pre-Bid Tour will not be held.

PART 2 (NOT USED)

PART 3 (NOT USED)

END OF SECTION

SECTION 00 41 11
BID FORM

PROJECT: City of River Falls: City Hall Building and Public Library Roof Replacement Projects
River Falls City Hall, 222 Lewis Street
Public Library, 140 Union Street
River Falls, Wisconsin 54022

BID DEADLINE: August 31, 2023
2:00 P.M. Local Time

To: _____

We _____(Name of Bidder) acknowledge that we have received the Contract Documents, prepared by Ayres Associates and dated July 6, 2023, that are listed in the Project Manual Table of Contents and Drawing Sheet Index and all matters referred to in the Instructions to Bidders and Supplementary Instructions to Bidders. We hereby agree to provide all labor, materials, equipment, and services required to complete the work in strict accordance with the Contract Documents for the following stated amount(s).

City Hall Roof Replacement Base Bid. All Work as designated for the sum of:

_____

Dollars ($_____), in lawful money of the United States of America. Sum includes:

$_____ for labor and incidental materials.

$_____ for Tax exempt materials purchased as an agent of the Owner.

Public Library Roof Replacement Base Bid. All Work as designated for the sum of:

_____

Dollars ($_____), in lawful money of the United States of America. Sum includes:

$_____ for labor and incidental materials.

$_____ for Tax exempt materials purchased as an agent of the Owner.

We have included the required security deposit as required by the Supplementary Instructions to Bidders.

All applicable federal taxes are included, and State of Wisconsin taxes are excluded from the Bid Sum. The General Contractor shall be responsible for the coordination and paperwork to document tax exempt materials.

Unit Prices: (listed below are for additions to or deductions from amount of work required under the contract)

Unit Price No. 1 – Roof Insulation Replacement:

Item	Unit Price	in Base Bid
City Hall Re-Roofing: Inspect existing roof insulation for damage. Replace damaged roof insulation. (See Section 07 54 00)	$_____Per SF.	_____ SF.

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Unit Price No. 2 – Roof Substrate Board:

Item	Unit Price	in Base Bid

City Hall Re-Roofing:
Inspect existing roof deck sheathing (substrate board) for damage.
Replace damaged roof substrate board.

(See Section 07 54 00) $_____Per S.F. _____ S.F.

Unit Price No. 3 – Vapor Retarder:

Item	Unit Price	in Base Bid

City Hall Re-Roofing:
Inspect existing roof vapor retarder for damage.
Replace damaged areas of vapor Retarder.

(See Section 07 54 00) $_____Per S.F. _____ S.F.

Unit Price No. 4 – Roof Sheathing:

Item	Unit Price	in Base Bid

City Hall and Public Library Re-Roofing:
Inspect existing roof sheathing for damage.
Replace damaged roof sheathing.

(See Sections 06 10 00 and 07 31 13) $_____Per S.F. _____ S.F.

ALTERNATES:

The following are Alternate Prices for specific portions of the Work as listed. The following is the list of Alternates:

Alternate No. 1 - Library Roof Replacement Metal Vent Cover Modifications:

1. Base Bid: Library Roof Replacement; Metal vent cover modifications not to be included.
2. Alternate (Add / Deduct): Add the metal vent cover modifications as shown on Detail 8/A401 on the Construction Drawings.

   Add / Deduct _____ Dollars ($ _____)

GENERAL CONSTRUCTION WORK

City Hall Re-Roofing Base Bid No. 1A. The General Construction Work as designated for the sum of:

_____

_____ Dollars ($ _____)

GENERAL CONSTRUCTION WORK

Public Library Re-Roofing Base Bid No. 2. The General Construction Work as designated for the sum of:

_____

_____ Dollars ($ _____)

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COMBINED BID

Combined bid in accordance with Instructions to Bidders consisting of all work in the following Base Bids (insert numbers and titles):

Base Bid No. ____ _____

Base Bid No. ____ _____

Base Bid No. ____ _____

For the sum of: _____

_____ Dollars ($ _____)

BUILDERS RISK INSURANCE

Cost to provide the Builders Risk Insurance:

_____

_____ Dollars ($ _____)

WITHDRAWAL OF BID

It is agreed that this bid and any required bid security may not be withdrawn for a period of 45 days after the Bid Deadline.

TIME OF COMPLETION

The undersigned agrees, if awarded the contract, to start work within 10 calendar days after "Notice to Proceed" and to substantially complete the work within _____ calendar days thereafter.

Failure to substantially complete the work within the stated time will result in liquidated damages of _____ per calendar day thereafter until substantial completion.

BIDDER'S WARRANTY

By the act of submitting a bid for the proposed work, the bidder warrants that:

1. Bidder and its subcontractors have carefully and thoroughly reviewed the Contract Documents and have found them complete, free of ambiguities, and sufficient for the purpose intended; further that,

2. Bidder and all workers, employees, and subcontractors are skilled and experienced in the type of work represented by the Contract Documents; further that,

3. Bid is based solely upon the Contract Documents and properly issued written addenda and not upon any other representation; further that,

4. Bidder has carefully examined the site of the work and from its investigations is satisfied as to the nature and location of work, the character, quality, quantities of materials, and difficulties to be encountered, the kind and extent of equipment and other facilities needed for performance of the work, the general and local conditions, and other items which may, in any way, affect the work or its performance; and further that,

5. Neither the bidder nor its employees, agents, prospective suppliers, or subcontractors have relied upon any verbal representations allegedly authorized or unauthorized from the Owner, its employees or agents, including architects, engineers, and consultants, in assembling the bid.

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LIST OF SUBCONTRACTORS

The following is a list of subcontractors whose bids were used in this bid. It is agreed that after submission of this list, no change may be made in subcontractors as listed without submitting change for Owner review in accordance with the conditions of the contract. If there are no subcontractors, state "None."

Subcontract:	Subcontractor:

ADDENDA

The undersigned acknowledges receipt of addenda _____ to _____ inclusive.

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ORGANIZATION AND AUTHORITY

The undersigned hereby certifies that the bidder is organized as indicated below and that all statements herein are made on behalf of such bidder.

Business Name _____

Business Address _____

_____

Telephone Number _____

Fax Number _____

E-Mail Address _____

State Contractor Registration/License No. (if applicable) _____

(Complete applicable paragraph 1, 2, 3, or 4.)

1. Corporation. Bidder is a corporation organized under the laws of the state of _____. Its corporate president is _____ and its corporate secretary is _____. The _____ is authorized to submit bids and sign construction contracts for the bidder by action of the board of directors.

2. Limited Liability Corporation. Bidder is a limited liability corporation organized under the laws of the state of _____. Its members are _____ _____. The _____ is authorized to submit bids and sign construction contracts for the bidder.

3. Partnership. Bidder is a partnership consisting of partners _____ _____ and _____.

4. Sole Trader. Bidder is an individual doing business as _____ _____.

SWORN STATEMENT

I, being duly sworn, hereby certify that I have examined and carefully prepared this bid from the Contract Documents and have checked the same in detail before submitting this bid; that I have full authority to make such statements and submit this bid on behalf of the above bidder; and that said statements are true and correct.

Signature _____

Name and Title _____

(Seal, if bid is by a corporation)

Subscribed and sworn to before me this _____

day of _____, 20 _____

_____ Notary Public

_____ County,

_____

My Commission expires _____

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Contracting Requirements

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SECTION 00 52 11

AGREEMENT FORM

PART 1 - GENERAL

1.01 AGREEMENT FORM

A. Written Agreement will be executed on American Institute of Architects Document A101™ – 2017 "Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum", which is incorporated herein by reference. This copyrighted document is available for review at the office of the Architect between the hours 9:00 A.M. and 4:00 P.M. Monday through Friday.

1. Copies of this document may be purchased from:

a. AIA Wisconsin, 321 S. Hamilton Street, Madison, Wisconsin 53703-4000.

1) Phone: (608) 257-8477.
2) Web: www.aiaw.org.

b. AIA Minnesota, 275 Market Street, Suite 54, Minneapolis, MN 55405.

1) Phone: (612) 338-6763.
2) Web: www.aia-mn.org.

PART 2 - (NOT USED)

PART 3 - (NOT USED)

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SECTION 00 61 11

PERFORMANCE BOND AND PAYMENT BOND

PART 1 - GENERAL

1.01 PERFORMANCE BOND AND PAYMENT BOND

A. Performance and Payment Bonds shall be executed on American Institute of Architects Document A312™-2010 “Performance Bond” and "Payment Bond", which is incorporated herein by reference. This copyrighted document is available for review at the office of the Architect between the hours 9:00 A.M. and 4:00 P.M. Monday through Friday.

1. Copies of this document may be purchased from:
   a. AIA Wisconsin, 321 S. Hamilton Street, Madison, Wisconsin 53703-4000.
      1) Phone: (608) 257-8477.
      2) Web: www.aiaw.org.
   b. AIA Minnesota, 275 Market Street, Suite 54, Minneapolis, MN 55405.
      1) Phone: (612) 338-6763.
      2) Web: www.aia-mn.org.

PART 2 - (NOT USED)

PART 3 - (NOT USED)

END OF SECTION

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SECTION 00 72 11

GENERAL CONDITIONS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

A. American Institute of Architects Document A201™–2017 “Standard General Conditions of the Contract for Construction” is hereby made a part of this Project Manual and is incorporated herein by reference. This copyrighted document is available for review at the office of the Architect between the hours 9:00 A.M. and 4:00 P.M. Monday through Friday.

1. Copies of this document may be purchased from:
   a. AIA Wisconsin, 321 S. Hamilton Street, Madison, Wisconsin 53703-4000.
      1) Phone: (608) 257-8477.
      2) Web: www.aiaw.org.
   b. AIA Minnesota, 275 Market Street, Suite 54, Minneapolis, MN 55405.
      1) Phone: (612) 338-6763.
      2) Web: www.aia-mn.org.

1.02 RELATED SECTIONS

A. Section 00 73 11 – Supplementary Conditions.

PART 2 - (NOT USED)

PART 3 - (NOT USED)

END OF SECTION

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SECTION 00 73 11
SUPPLEMENTARY CONDITIONS

PART 1 - GENERAL

ARTICLE 1 GENERAL PROVISIONS

1.1 Basic Definitions

A. The following supplements modify AIA Document A201™-2017, General Conditions of the Contract for Construction, and other Contract Documents as specifically indicated. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, the unaltered provisions of the General Conditions shall remain in effect.

1.2 Correlation and Intent of The Contract Documents

A. Add new Section 1.2.4 as follows:

1. 1.2.4 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:
   a. The Agreement.
   b. Addenda, with those of the later date have precedence over those of earlier date.
   c. The Supplementary Conditions.
   d. The General Conditions of the Contract for Construction.
   e. Drawings and Specifications (Project Manual).

2. In the case of an inconsistency between the Drawings and Specifications (Project Manual) or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation. The precedence of the Contract Documents is in the following sequence:
   a. Addenda and Modifications of the Contract Documents take precedence over the original document.
   b. Drawings of larger scale shall take precedence over those of smaller scale and noted materials over graphic indication.
   c. Discrepancy between the Specifications (Project Manual) and the Drawings, the Specifications (Project Manual) shall take precedence over the Drawings, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.

1.6 Notice

A. Amend Section 1.6.1 to indicate that written notice under this Contract shall be served in person, by mail, by email or by courier.

ARTICLE 3 CONTRACTOR

3.3.1 Supervision and Construction Procedures

A. Add the following to Section 3.3.1:

3.3.1.1 If Contract Documents give specific instructions on construction procedures, Contractor shall (1) review any such construction or installation procedure (including those recommended by manufacturers); (2) advise Architect (a) if procedure deviates from good construction practice, (b) if following procedure will affect any warranties, including Contractor's general warranty, or (c) of any objections Contractor may have to procedure; and (3) propose any alternate procedure which Contractor will warrant.

ARTICLE 5 SUBCONTRACTORS

1.5 SUBCONTRACTORS AND SUPPLIERS

A. Add the following Section 5.2.5:

5.2.5 In accordance with Wis. Stats., s. 779.14, Contractor agrees, to the extent practicable, to maintain a list of all subcontractors and suppliers performing labor or furnishing materials to Contractor for the project.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 Owner's Right to Preform Construction and to Award Separate Contracts

A. Add the following to Section 6.1.3:

6.1.3.1 Construction shall be coordinated by the General Contractor in accordance with the General Requirements (Division 01).

ARTICLE 9 PAYMENTS AND COMPLETION

9.3 Applications for Payments

A. In the first sentence of Section 9.3.1, change "ten days" to "thirty days."

B. Add the following to Section 9.3.1:

9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certificate for Payment, supported by AIA Document G703, Continuation Sheet.

9.3.1.4 Provided an Application for Payment is received by the Architect not later than the first day of the month, the Owner shall make payment to the Contractor not later than the first day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment will be made by the Owner not later than sixty days after the Architect receives the Application for Payment.

9.3.1.5 Retainage shall be accumulated at 5% of the value of the Work completed, and 5% of the value of materials and equipment delivered and suitably stored, until 50% completion. At 50% completion, no additional amounts shall be retained unless Architect certifies that the Work is not proceeding satisfactorily but amounts previously retained shall not be paid to Contractor. At 50% completion or any time thereafter when the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall total retainage be more than 10% of the value of the Work completed and materials and equipment delivered and suitably stored.

C. Delete the last two sentences of Section 9.8.5 and substitute the following:

Upon acceptance of Certificate of Substantial Completion by Owner and Contractor, payments shall be increased to 98% of the Contract Sum (i.e. retainage will be reduced to 2% of the Contract Sum), less an allowance for incomplete Work and other amounts that may be withheld in accordance with the General Conditions.

9.6 PROGRESS PAYMENTS

A. Add the following to Section 9.6.4.1:

9.6.4.1 In the event Owner receives notice from any person, subcontractor, supplier, or other third party, that Contractor has failed to pay such party for Work performed in accordance with the Contract Documents, Contractor shall, at request of Owner, and in no more than 10 calendar days, provide all documentation Owner believes necessary to determine whether

such payment is due, or reasons for non-payment of disputed amounts. In the event Owner determines a claim to be valid, Owner may withhold from Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay such claim until satisfactory documentation is furnished that the liability has been fully discharged or reasons for non-payment of disputed amounts are provided by Contractor. In the event a claim is valid, and payment is due, or in the absence of the requested documentation, Owner may authorize direct or two-party payment of any unpaid bills. In no event shall this provision be construed to impose any obligations upon Owner or Architect to either Contractor or Contractor's surety (if any).

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.9 Hazardous Materials and Substances

A. The provisions of Sections 10.3.1 through 10.3.3 are not applicable to hazardous materials or substances that are indicated in the Contract Documents to be within the scope of the Work.

ARTICLE 11 INSURANCE AND BONDS

A. Add the following Section. 11.1.5 Contractor's Required Insurance Coverage:

1. Umbrella Liability Insurance: Provide policy limits of not less than:

   a. General Aggregate: $ 4,000,000

2. Commercial General Liability Insurance: The Contractor shall maintain during the life of this contract, Commercial General Liability Insurance, naming and protecting contractor and the City of River Falls against claims for damages resulting from (a) bodily injury, including wrongful death, and (b) property damage which may arise from operations under this contract whether such operations be by contractor or by any subcontractor or anyone directly employed by either of them. The insurance requirements are:

   Commercial General Liability (form CG0001 or equivalent) with limits of:

a.	Each Occurrence:	$ 2,000,000
b.	Personal Injury:	$ 2,000,000
c.	Products/Completed Operations:	$ 2,000,000
d.	General Aggregate:	$ 2,000,000

   and:

   Coverage shall include Contractual Liability coverage ensuring the contractual exposure as addressed in this contract.

   There shall be no exclusion or limitation for the Explosion (X), Collapse (C), and Underground (U) hazards.

   Coverage shall also include Products/Completed Operations (CG2037 or equivalent).

   The city of River Falls shall be named as Additional insured (CG 2010 or equivalent).

   The Commercial General Liability coverage shall be endorsed with the Designated Construction Project(s) General Aggregate Limit endorsement (CG 2503 or equivalent).

3. Automobile Liability Insurance: The Contractor shall take out and maintain during the life of this contract such Automobile Liability Insurance as shall protect contractor against claims for damages resulting from (a) bodily injury, including wrongful death, and (b) property damage which may arise from the operations of any owned, hired, or now-owned automobiles used by or for contractor in any capacity in connection with the carrying out of this contract. The minimum acceptable limits of liability to be provided by such Automobile Liability Insurance shall be as follows:

a. Bodily Injury and Property Damage, Combined Single Limit: $1,000,000

4. Workers' Compensation Insurance and Employer's Liability Insurance: The Contractor shall take out and maintain during the life of this contract the applicable statutory Worker's Compensation Insurance, and in the case of any work sublet, the Contractor shall require the subcontractor similarly to provide statutory Worker's Compensation Insurance for the latter's employees. Coverage shall be provided by an insurance company authorized to write such insurance in all states where the Contractor will have employees located in the performance of this contract, and the Contractor shall require each of his subcontractors similarly to maintain Employer's Liability Insurance similarly to the Contractor.

   Workers' Compensation – Required limits:

   a. Coverage A – Coverage will include Statutory requirements Coverage B – Employers Liability:

      1) Each Person: $500,000
      2) Each Person by Disease: $500,000
      3) Policy Limit - Disease: $500,000

5. Professional Liability Insurance: This insurance is not required.

6. Pollution Liability Insurance: This insurance is not required.

7. Maritime Liability Insurance: This insurance is not required unless the work requires maritime activities.

8. Manned or Unmanned Aircraft Liability Insurance: This insurance is not required unless the work requires aircraft activities.

9. Additional Insureds: Additional insureds to be listed on Contractor's Commercial General Liability policy with respect to the work to be performed (subject to customary exclusion for professional liability) are as follows. The insurance afforded the additional insureds under Contractor's liability policy shall provide primary coverage for all claims covered thereby.

   a. Owner: City of River Falls.
   b. Architect: Ayres Associates.

B. Add the following Section, 11.1.6 Contractor's Other Insurance Coverage:

1. Builders Risk Insurance: Contractor is requested to provide the cost to provide the Builders Insurance. The Contractor shall identify this cost of providing the Builders Risk Insurance on the Bid Form.

2. Property Insurance: Contractor is not required to provide this insurance. It will be provided by Owner in accordance with Section A.2.3 of the Agreement, except that the insurance will be subject to a deductible of $ 2,500 for which Owner will not be responsible.

3. Railroad Protective Liability Insurance: This insurance is not required.

4. Asbestos Abatement Liability Insurance: This insurance is not required.

5. Insurance for physical damage to property while it is in storage and in transit to the construction site is required.

6. Property insurance covering property owned by Contractor and used on the project is not required.

7. Minimum Scope of Insurance: All Liability Insurance policies shall be written on an "Occurrence" basis only. All insurance coverage are to be placed with insurers authorized to do business in the State of Wisconsin and must be placed with an insurer that has A.M. Best's Rating of no less than A:VII unless specific approval has been granted by the City of River Falls.

C. Add the following Section;11.1.7 Certificates of Insurance:

11.1.7 Certificate of Insurance: All Certificates of Insurance shall be filed with the City of River Falls on the standard ACCORD CERTIFICATE OF INSURANCE form showing the specific limits of insurance, coverage modifications and endorsements required by the preceding Paragraph A, Subparagraphs 1, 2, 3, 4, and 9 and showing the City of River Falls is an additional insured where required. Such certificate shall specifically state that insurance policies are to be endorsed to require the insurer to provide the City of River Falls thirty days, notice of cancellation non-renewal or any material reduction of insurance coverage.

11.6.1 PERFORMANCE AND PAYMENT BONDS:

Add Section 11.6.1: Performance and Payment Bonds:

11.6.1 Bonds shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

Add Section 11.6.2:

11.6.2 The performance and payment bonds furnished for the project are for a private improvement contract. The payment bond shall be construed to comply with Wis. Stats., s. 779.03(2) and 779.035, for purposes of eliminating construction lien rights.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.4 Termination by The Owner for Convenience

Revise Section 14.4.3 to read as follows:

14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and reasonable overhead and profit (to be negotiated) on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

15.4 Arbitration

Delete Section 15.4 Arbitration. For any Claim subject to, by not resolved by, mediation pursuant to Section 15.3, the method of binding dispute resolution shall be litigation in a court of competent jurisdiction.

ARTICLE 16 NONRESIDENT CONTRACTORS

Add new Article 16 Nonresident Contractors to read as follows:

16.1: The State of Wisconsin requires nonresident persons, whether incorporated or not, engaging in construction contracting in the State as a contractor or subcontractor to file a

surety bond with the Wis. Dept. of Revenue or (if approved) a cash deposit with the Wis. Dept. of Administration to guarantee the payment of certain taxes. The bond or deposit is required where the amount of the contract or subcontract (or the aggregate amount of two or more contracts or subcontracts in one year) is $50,000 or more. The bond or deposit must be filed within 60 days after construction is begun. Refer to Wis. Stats., s. 71.80(16), for complete requirements.

16.2: Nonresident contractors and subcontractors are responsible for making their own arrangements to meet this requirement.

PART 2 - (NOT USED)

PART 3 - (NOT USED)

END OF SECTION

Digital Data Release Agreement

Agreement Made: Click or tap to enter a date.

Transmitting Party: Click or tap here to enter text.

Receiving Party: Click or tap here to enter text.

Project Name: Click or tap here to enter text.

Project Number: Click or tap here to enter text.

This **Digital Data Release Agreement** ("Agreement") is made as of the date first listed above ("Effective Date") by and between the Transmitting Party and the Receiving Party and related to the project identified above ("Project").

Transmitting Party desires to transmit, and Receiving Party desires to receive, certain digital data subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth in this Agreement and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Purpose of Agreement. The purpose of this agreement is to grant the Receiving Party a limited license to use the Digital Data (defined in Section 2) identified in this Agreement solely for the purpose of the Project.

2. Definitions**.**

    a. "Confidential Digital Data" is Digital Data containing confidential or business proprietary information that either the Transmitting Party designates and clearly marks as "confidential" or information that Receiving Party knows, or should reasonably be expected to know under the circumstances of disclosure, is confidential.

    b. "Digital Data" is defined as any information, including communications, drawings, specifications and designs, created or stored for the Project in digital form. Unless otherwise stated, the term Digital Data also includes the Model and Confidential Digital Data.

    c. "Model" is defined as a digital representation of the Project, or a portion of the Project

3. Transmission and Ownership of Digital Data.

    a. The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party is the copyright owner of the Digital Data, or otherwise has permission to transmit the Digital Data for its use on the Project.

b. If Transmitting Party sends Confidential Digital Data, the transmission of this data constitutes a warranty that Transmitting Party is authorized to transmit the Confidential Digital Data. The Receiving Party agrees to keep the Confidential Digital Data strictly confidential and shall not disclose it to any other person or entity except as required by law or upon receiving written consent from Transmitting Party allowing Receiving Party to share the Confidential Digital Data. The Receiving Party may also disclose the Confidential Digital Data to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of the Confidential Digital Data.

c. By transmitting the Digital Data, Transmitting Party does not convey any ownership right in the Digital Data or in the software used to generate the Digital Data. Unless otherwise granted in writing by Transmitting Party, the Receiving Party's right to use, modify, or further transmit Digital Data is limited to designing, constructing, using, maintaining, altering and adding to the Project.

d. The Receiving Party agrees to notify Transmitting Party about all inconsistencies and other indications of non-coordination concerning the Digital Data supplied by Transmitting Party.

4. Warranties. With respect to the Digital Data, Transmitting Party makes no warranties, express or implied, of merchantability or fitness for a particular purpose.

5. Indemnification. Receiving Party agrees that it assumes sole responsibility of it use of the Digital Data and for the content of the files. Receiving Party agrees that it shall, to the fullest extent permitted by law, indemnify, defend, and hold harmless Transmitting Party from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from its or its user's use of the Digital Data and the content of the files.

6. Storage. Receiving Party shall use reasonable physical and technical security measures, in accordance with industries standards, in its transmission, use, storage and retention of Digital Data.

7. Further Transmittal. If Receiving Party intends to provide this Digital Data to others including subcontractors, manufacturers, or other parties, the Receiving Party is required, prior to transmitting any Digital Data, to enter into a new Digital Data Release Agreement with each such party whereby the Receiving Party would be the transmitting party under each such agreement.

8. Miscellaneous.

a. Interpretation; Headings. This Agreement shall be construed without regard to any presumption or rule requiring construction or interpretation against the party drafting

an instrument or causing any instrument to be drafted. The headings in this Agreement are for reference only and shall not affect the interpretation of this Agreement.

b. Severability. If any term or provision of this Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement.

c. Amendment and Modification; Waiver. This Agreement may only be amended, modified or supplemented by an agreement in writing signed by each party hereto. No waiver by any party of any of the provisions hereof shall be effective unless explicitly set forth in writing and signed by the party so waiving.

d. Governing Law; Submission to Jurisdiction. All matters arising out of or relating to this Agreement shall be governed by and construed in accordance with the internal laws of the State of Wisconsin. Any legal suit, action, proceeding or dispute arising out of or relating to this Agreements shall be instituted in the federal courts of the United States of America or the courts of the State of Wisconsin, and each party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action, proceeding or dispute.

e. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement and may be electronically exchanged.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the Effective Date by their respective officers thereunto duly authorized.

X _____

TRANSMITTING PARTY (signature)

X _____

RECEIVING PARTY (signature)

X _____

(printed name and title)

X _____

(printed name and title)

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Specifications

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SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: City of River Falls City Hall Building and Public Library Roof Replacement Projects.

B. Owner's Name: City of River Falls.

1. 222 Lewis Street.
2. River Falls, Wisconsin 54022.
   a. Contact: Tom Schwalen
   b. E-Mail: TSchwalen@RFCITY.ORG

C. Architect's Name: Ayres Associates.

1. 215 North Second Street
2. River Falls, Wisconsin 54022
   a. Contact: Mark Paschke
   b. E-Mail: PaschkeM@AyresAssociates.com

D. Additional Project contact information is specified in Section 00 01 03 - Project Directory.

E. In general the project consists of providing all materials and labor for complete roofing replacement of the River Falls City Hall, located at 222 Lewis Street, River Falls, WI 544022 and the Public Library, located at 140 Union Street, River Falls, WI 5402 as described in the Construction Documents prepared by Ayres Associates dated July 6, 2023. Bidding documents will be made available on or about Thursday, August 17, 2023.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Sum as described in Document 00 52 11 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 41 00.

B. Scope of alterations work is indicated on drawings.

1.04 WORK BY OWNER

A. Owner will remove existing roof, gutter and downspout de-icing system from existing roof before the re-roofing work begins and will reinstall the system after the re-roofing work is completed.

1.05 OWNER OCCUPANCY

A. Owner intends to occupy the Project by the date stated in the Agreement as the contract completion date.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site to allow:

1. Use of site and premises by the public.

C. Provide access to and from site as required by law:

1. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Time Restrictions:

1. Limit conduct of especially noisy exterior work to the hours of 8:00 AM to 5:00 PM local time.

1.07 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-Division format and the CSI/CSC's "MasterFormat" numbering system.

1. 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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 00 52 11 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.

B. Document 00 72 11 - General Conditions of the Contract and Document 00 73 11 - Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.

C. Section 01 22 00 - Unit Prices: Monetary values of unit prices; Payment and modification procedures relating to unit prices.

D. Section 01 78 00 - Closeout Submittals: Project record documents.

1.03 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.

E. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

F. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.

G. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: monthly.

B. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. Present required information in typewritten form.

F. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.

G. For each item, provide a column for listing each of the following:

1. Item Number.
2. Description of work.
3. Scheduled Values.
4. Previous Applications.
5. Work in Place and Stored Materials under this Application.
6. Authorized Change Orders.
7. Total Completed and Stored to Date of Application.
8. Percentage of Completion.
9. Balance to Finish.
10. Retainage.

H. Execute certification by signature of authorized officer.

I. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

J. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

K. Submit one electronic and three hard-copies of each Application for Payment.

L. Include the following with the application:

1. Transmittal letter as specified for submittals in Section 01 30 00.
2. Construction progress schedule, revised and current as specified in Section 01 32 16.
3. Current construction photographs specified in Section 01 30 00.
4. Partial release of liens from major subcontractors and vendors.
5. Affidavits attesting to off-site stored products.

M. When Architect requires substantiating information, submit data justifying dollar amounts in question.

N. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

B. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710.

C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.

1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 15 days.

E. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on work by separate or other contractors. Document any requested substitutions in accordance with Section 01 60 00.

F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.

1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.
4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

G. Substantiation of Costs: Provide full information required for evaluation.

1. On request, Provide following data:
   a. Quantities of products, labor, and equipment.

b. Taxes, insurance, and bonds.
c. Overhead and profit.
d. Justification for any change in Contract Time.
e. Credit for deletions from Contract, similarly documented.

2. Support each claim for additional costs with additional information:
   a. Origin and date of claim.
   b. Dates and times work was performed, and by whom.
   c. Time records and wage rates paid.
   d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

K. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:

1. All closeout procedures specified in Section 01 70 00.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (NOT USED)

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 22 00
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. List of unit prices, for use in preparing Bids.

B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

1.02 RELATED REQUIREMENTS

A. Section 01 20 00 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 COSTS INCLUDED

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.04 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.05 MEASUREMENT OF QUANTITIES

A. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect.

B. Assist by providing necessary equipment, workers, and survey personnel as required.

C. Measurement by Area: Measured by square dimension using mean length and width or radius.

D. Contractor's Engineer Responsibilities: Sign surveyor's field notes or keep duplicate field notes , calculate and certify quantities for payment purposes.

1.06 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.

B. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products placed beyond the lines and levels of the required Work.
4. Products remaining on hand after completion of the Work.

1.07 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1 - Roof Insulation Replacement:

1. Description: City Hall Re-Roofing; Provide a unit price to be used if unsuitable existing roof insulation is encountered and is required to be replaced.
2. Unit of Measurement: Square foot.
3. See Section 07 54 00 - Thermoplastic Roofing.

B. Unit Price No. 2 - Deck Sheathing (Substrate Board):

1. Description: City Hall Re-Roofing; Provide a unit price to be used if unsuitable existing deck sheathing (substrate board) is encountered and is required to be replaced.
2. Unit of Measurement: Square foot as measured in place.
3. See Section 07 54 00 - Thermoplastic Roofing.

C. Unit Price No. 3 - Vapor Retarder:

1. Description: City Hall Re-Roofing; Provide a unit price to be used if existing roof vapor retarder damage is encountered and is required to be replaced.
2. Unit of Measurement: Square foot as measured in place.
3. See Section 07 54 00 - Thermoplastic Roofing.

D. Unit Price No. 4 - Roof Sheathing:

1. Description: City Hall and Public Library Re-Roofing; Provide a unit price to be used if unsuitable existing wood roof sheathing is encountered and is required to be replaced
2. Unit of Measurement: Square foot as measured in place.
3. See Sections 06 10 00 - Rough Carpentry and 07 31 13 - Asphalt Shingles.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 23 00
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

1.02 RELATED REQUIREMENTS

A. Document 00 21 11 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

B. Document 00 21 13 - Supplementary Instructions to Bidders: Instructions for preparation of pricing for Alternates qualifying for sales tax-exempt status.

C. Document 00 52 11 - Agreement Form: Incorporating monetary value of accepted Alternates.

1.03 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.04 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Library Roof Replacement Metal Vent Cover Modifications.

1. Base Bid: Library Roof Replacement; Metal vent cover modifications not to be included.
2. Alternate: Add the metal vent cover modifications as shown on Detail 8/A401 on the Construction Drawings.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 00 21 13 - Instructions to Bidders: Restrictions on timing of substitution requests.

B. Section 01 22 00 - Unit Prices, for additional unit price requirements.

C. Section 01 30 00 - Administrative Requirements: Submittal procedures, coordination.

D. Section 01 60 00 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling. Section also includes required Substitution Request Form for substitution requests made after award of contract (During construction).

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.

1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
   a. Unavailability.
2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
   a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
2. Agrees to provide the same warranty for the substitution as for the specified product.
3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.

B. A Substitution Request for specified installer constitutes a representation that the submitter:

1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

1. Specific form is required, refer to Section 01 60 00 - Product Requirements. Contractor's Substitution Request documentation must include the following:
   a. Project Information:
      1) Official project name and number, and any additional required identifiers established in Contract Documents.
      2) Owner's, Architect's, and Contractor's names.
   b. Substitution Request Information:
      1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
      2) Indication of whether the substitution is for cause or convenience.
      3) Issue date.
      4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
      5) Description of Substitution.
      6) Reason why the specified item cannot be provided.
      7) Differences between proposed substitution and specified item.
      8) Description of how proposed substitution affects other parts of work.
   c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
      1) Physical characteristics.
      2) In-service performance.
      3) Expected durability.
      4) Visual effect.
      5) Warranties.
      6) Include, as appropriate or requested, the following types of documentation:
         (a) Product Data:
         (b) Samples.
         (c) Certificates, test, reports or similar qualification data.
         (d) Drawings, when required to show impact on adjacent construction elements.
   d. Impact of Substitution:
      1) Savings to Owner for accepting substitution.
      2) Change to Contract Time due to accepting substitution.

E. Limit each request to a single proposed substitution item.

1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period, and the documents required.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

B. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
3. Bear the costs engendered by proposed substitution of:
   a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

C. Substitutions will not be considered under one or more of the following circumstances:

1. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.

END OF SECTION

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SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Progress photographs.

F. Submittals for review, information, and project closeout.

G. Number of copies of submittals.

H. Requests for Interpretation (RFI) procedures.

I. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 00 72 19 - General Conditions: Dates for applications for payment.

B. Section 01 60 00 - Product Requirements: General product requirements.

C. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

D. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 REFERENCE STANDARDS

A. AIA G716 - Request for Information 2004.

B. AIA G810 - Transmittal Letter 2001.

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:

1. Requests for Interpretation (RFI).
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.

6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. General Contractor will schedule a meeting after Notice of Award.

C. Attendance Required:

1. Owner.
2. Architect.
3. Contractor.
4. Major subcontractors.

D. Agenda:

1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
5. Designation of personnel representing the parties to Contract.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

E. General Contractor shall record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 SITE MOBILIZATION MEETING

A. General Contractor will schedule a meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:

1. Contractor.
2. Owner.
3. Architect.
4. Contractor's Superintendent.
5. Major subcontractors.

C. Agenda:

1. Temporary utilities.
2. Survey and building layout.
3. Security and housekeeping procedures.
4. Schedules.
5. Application for payment procedures.
6. Procedures for testing.
7. Procedures for maintaining record documents.
8. Requirements for start-up of equipment.
9. Inspection and acceptance of equipment put into service during construction period.

D. Contractor shall record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:

1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:

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

E. Contractor shall record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 01 32 16

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

F. Submit updated schedule with each Application for Payment.

3.05 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Maintain one set of all photographs at project site for reference; same copies as submitted, identified as such.

C. Photography Type: Digital; electronic files.

D. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Architect.

E. In addition to periodic, recurring views, take photographs of each of the following events:

1. Completion of site clearing.
2. Excavations in progress.
3. Foundations in progress and upon completion.
4. Structural framing in progress and upon completion.
5. Enclosure of building, upon completion.
6. Final completion, minimum of ten (10) photos.

F. Views:

1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
2. Consult with Architect for instructions on views required.
3. Provide factual presentation.
4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

G. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.

1. Delivery Medium: Via email with project record photo CD.
2. File Naming: Include project identification, date and time of view, and view identification.
3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
4. Photo CD(s): Provide 1 copy including all photos cumulative to date and PDF file(s), with files organized in separate folders by submittal date.

5. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

H. Deliver negatives to Owner with project record documents. Catalog and index negatives in chronological sequence; provide typed table of contents.

3.06 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare a separate RFI for each specific item.
   a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
   b. Do not forward requests which solely require internal coordination between subcontractors.
2. Prepare in a format and with content acceptable to Owner.
   a. Use AIA G716 - Request for Information .
3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.

1. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
   a. Approval of submittals (use procedures specified elsewhere in this section).
   b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
   c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
   d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
2. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
   a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.

1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Discrete and consecutive RFI number, and descriptive subject/title.
3. Issue date, and requested reply date.
4. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
5. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.

1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.
3. Highlight items requiring priority or expedited response.
4. Highlight items for which a timely response has not been received to date.
5. Identify and include improper or frivolous RFIs.

G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.

1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.07 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.

1. Submit at the same time as the preliminary schedule specified in Section - 01 32 16 - Construction Progress Schedule.

2. Coordinate with Contractor's construction schedule and schedule of values.
3. Format schedule to allow tracking of status of submittals throughout duration of construction.
4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
    a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:

1. Product data.
2. Shop drawings.
3. Samples for selection.
4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:

1. Project record documents.
2. Operation and maintenance data.
3. Warranties.

4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.11 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.

1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically so stated.

3.12 SUBMITTAL PROCEDURES

A. General Requirements:

1. Use a single transmittal for related items.
2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
3. Transmit using approved form.
   a. Use Form AIA G810.
4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
   a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
7. Schedule submittals to expedite the Project, and coordinate submission of related items.
   a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
   b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 10days.
   c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 days.
8. Provide space for Contractor and Architect review stamps.
9. When revised for resubmission, identify all changes made since previous submission.
10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
11. Submittals not requested will not be recognized or processed.

B. Product Data Procedures:

1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:

1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:

1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.

E. Shop Drawing Procedures:

1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

F. Transmit each submittal with a copy of approved submittal form.

G. Transmit each submittal with AIA Form G810.

H. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

I. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

J. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

K. Deliver submittals to Architect at business address.

L. Schedule submittals to expedite the Project, and coordinate submission of related items.

M. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

N. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

O. Provide space for Contractor and Architect review stamps.

P. When revised for resubmission, identify all changes made since previous submission.

Q. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

R. Submittals not requested will not be recognized or processed.

3.13 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:

1. Authorizing purchasing, fabrication, delivery, and installation:
    a. "Approved", or language with same legal meaning.
    b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
        1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
    c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
2. Not Authorizing fabrication, delivery, and installation:
    a. "Revise and Resubmit".
        1) Resubmit revised item, with review notations acknowledged and incorporated.
        2) Non-responsive resubmittals may be rejected.
    b. "Rejected".
        1) Submit item complying with requirements of Contract Documents.

E. Architect's and consultants' actions on items submitted for information:

1. Items for which no action was taken:
    a. "Received" - to notify the Contractor that the submittal has been received for record only.
2. Items for which action was taken:
    a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.02 SUBMITTALS

A. Within 10 days after date of Agreement, submit preliminary schedule.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Submit updated schedule with each Application for Payment.

E. Submit the number of opaque reproductions that requires, plus two copies which will be retained by Architect.

1.03 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Diagram Sheet Size: Maximum 22 x 17 inches or width required.

C. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification section number.

C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

D. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.

E. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

A. Include a separate bar for each major portion of Work or operation.

B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and evaluation of schedule with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

3.06 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Mock-ups.

E. Control of installation.

F. Testing and inspection agencies and services.

G. Control of installation.

H. Mock-ups.

I. Manufacturers' field services.

J. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Document 00 72 11 - General Conditions: Inspections and approvals required by public authorities.

B. Section 01 30 00 - Administrative Requirements: Submittal procedures.

C. Section 01 42 16 - Definitions.

D. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2023).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2023.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Testing Agency Qualifications:

1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

C. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

D. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.

1. Include:
   a. Date issued.
   b. Project title and number.
   c. Name of inspector.
   d. Date and time of sampling or inspection.
   e. Identification of product and specifications section.
   f. Location in the Project.
   g. Type of test/inspection.
   h. Date of test/inspection.
   i. Results of test/inspection.
   j. Compliance with Contract Documents.
   k. When requested by Architect, provide interpretation of results.

E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.

1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

F. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

G. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.

1. Submit report in duplicate within 30 days of observation to Architect for information.
2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

H. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.

1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.05 QUALITY ASSURANCE

A. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.07 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:

1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
3. Laboratory: Authorized to operate in the State in which the Project is located.
4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Notify Architect fifteen (15) working days in advance of dates and times when mock-ups will be constructed.

D. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.

E. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

F. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

G. Obtain Architect's approval of mock-ups before starting work, fabrication, or construction.

H. Accepted mock-ups shall be a comparison standard for the remaining Work.

I. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
5. Perform additional tests and inspections required by Architect.
6. Submit reports of all tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

D. Contractor's Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
    a. To provide access to Work to be tested/inspected.
    b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    c. To facilitate tests/inspections.
    d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.04 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanshipstart-up of equipment,test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 42 16
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

A. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

D. Provide: To furnish and install.

E. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Enviromental Protection

G. Vehicular access and parking.

H. Waste removal facilities and services.

1.02 RELATED REQUIREMENTS

A. Section 01 58 13 - Temporary Project Signage.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.

1.04 TEMPORARY UTILITIES

A. Contractor shall be responsible for providing electric power as required for construction purposes. Provide portable power supply or make arrangements with local utility.

B. Contractor shall be responsible for providing water for its needs during construction, except that water for water main testing shall be taken from municipal system and will be paid for by Owner.

C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.05 TELECOMMUNICATIONS SERVICES

A. Contractors and subcontracotrs shall provide their own cell phones for their own use. No additional telephone service will be provided.

1.06 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.07 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.08 FENCING

A. Construction: Contractor's option.

1.09 SECURITY

A. Provide security and facilities to protect Work, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

C. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.

1.10 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.11 WASTE REMOVAL

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from site weekly.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.12 PROJECT SIGNS - SEE SECTION 01 58 13

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.

B. Lumber and Plywood: Comply with requirements in Division 06 Section "Rough Carpentry."

1. For signs and directory boards, provide exterior type, Grade BB High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness' indicated.
2. For fences and vision barriers, provide exterior type, minimum 3/8 inch thick plywood.
3. Far safety barriers, sidewalk bridges, and similar uses, provide 5/8 inch thick plywood.

C. Paint: Comply with requirements in Division 09 Section "Exterior Painting."

D. Water: Potable.

2.02 EQUIPMENT

A. General: Provide equipment suitable for use intended.

B. Field Offices: Mobile units with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading.

C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.

D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

E. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

F. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable

PART 3 - EXECUTION

3.01 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.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.

B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Provide separate facilities for male and female personnel.
3. Locate toilets and drinking-water fixtures so personnel need not walk more than two stories vertically or 200 feet (60 m) horizontally to facilities.

C. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnecting means, automatic ground-fault interrupters, and main distribution switchgear.

1. Install electric power service underground, unless overhead service must be used.

2. Connect temporary service to Owner's existing power source, as directed by electric company officials.

D. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.

1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
2. Provide warning signs at power outlets other than 110 to 120 V.
3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
4. Provide metal conduit enclosures or boxes for wiring devices.
5. Provide 4-gang outlets, spaced so 100-foot (30-m) extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.

E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Provide one 100-W incandescent lamp per 500 sq. ft. (45 sq. m), uniformly distributed, for general lighting, or equivalent illumination.
3. Provide one 100-W incandescent lamp every 50 feet (15 m) in traffic areas.
4. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed.

3.03 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
2. 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. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Refer to Division 01 Section “Construction Waste Management” for additional waste disposal procedures. Comply with Division 01 Section "Execution Requirements" for progress cleaning requirements.

1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
2. Develop a waste management plan for Work performed on Project. Indicate types of waste materials Project will produce and estimate quantities of each type. Provide detailed information for on-site waste storage and separation of recyclable materials. Provide information on destination of each type of waste material and means to be used to dispose of all waste materials. Refer to Division 01 Section “Construction Waste Management” for additional waste disposal procedures.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility services. Sheds may be open shelters or fully enclosed spaces within building or elsewhere on-site.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.

B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm-) thick exterior plywood.

C. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
   a. Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
   b. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.
4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.05 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 58 13
TEMPORARY PROJECT SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project identification sign.

1.02 QUALITY ASSURANCE

A. Design sign and structure to withstand 50 miles/hr wind velocity.

B. Sign Painter: Experienced as a professional sign painter for minimum three years.

C. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Shop Drawing: Show content, layout, lettering, color , foundation , structure , sizes and grades of members.

PART 2 PRODUCTS

2.01 SIGN MATERIALS

A. Structure and Framing: New, wood, structurally adequate.

B. Sign Surfaces: Exterior grade plywood with medium density overlay, minimum 3/4 inch thick, standard large sizes to minimize joints.

C. Paint and Primers: Exterior quality, two coats; sign background of color as selected.

D. Lettering: Exterior quality paint, contrasting colors.

2.02 PROJECT IDENTIFICATION SIGN

A. One painted sign, 48 sq ft area, bottom 6 feet above ground.

B. Content:

1. Project number, title, logo and name of Owner as indicated on Contract Documents.
2. Names and titles of Architect and Consultants.
3. Name of Prime Contractor and major Subcontractors.

C. Graphic Design, Colors, Style of Lettering: Designated by Architect.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install project identification sign within 30 days after date fixed by Notice to Proceed.

B. Install sign surface plumb and level, with butt joints. Anchor securely.

C. Paint exposed surfaces of sign, supports, and framing.

3.02 MAINTENANCE

A. Maintain signs and supports clean, repair deterioration and damage.

3.03 REMOVAL

A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

F. Substitution Request Form.

1.02 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

B. Section 01 40 00 - Quality Requirements: Product quality monitoring.

C. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1. Submit within 15 days after date of Agreement.
2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. See Section 01 40 00 - Quality Requirements, for additional source quality control requirements.

C. Use of products having any of the following characteristics is not permitted:

1. Made outside the United States, its territories, Canada, or Mexico.
2. Made using or containing CFC's or HCFC's.
    a. HCFC's used in the manufacturing process.
3. Made of wood from newly cut old growth timber.
4. Containing lead, cadmium, or asbestos.

D. Where other criteria are met, Contractor shall give preference to products that:

1. If used on interior, have lower emissions, as defined in Section 01 61 16.
2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
3. Are extracted, harvested, and/or manufactured closer to the location of the project.
4. Have longer documented life span under normal use.
5. Are made of vegetable materials that are rapidly renewable.
6. Are made of recycled materials.
7. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.

E. Urea-Formaldehyde Prohibition:

1. Overall Project Requirement: Provide composite wood and agrifiber products having no added urea-formaldehyde resins.
    a. Require each installer to certify compliance and submit product data showing product content.
2. Specific Product Categories: Comply with limitations specified elsewhere.

F. Adhesives and Joint Sealants:

1. Definition: This provision applies to gunnable, trowelable, and liquid-applied adhesives, sealants, and sealant primers used anywhere on the interior of the building inside the weather barrier, including duct sealers.
2. Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.
    a. Require each installer to certify compliance and submit product data showing product content.
3. Specific Product Categories: Comply with limitations specified elsewhere.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 25 00 - Substitution Procedures.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of the general contractor.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
2. Agrees to provide the same warranty for the substitution as for the specified product.
3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure (after contract award):

1. Submit electronic (PDF) copies of request for substitution for consideration. Limit each request to one proposed substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

K. Prevent contact with material that may cause corrosion, discoloration, or staining.

L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

THIS SECTION CONTINUES WITH THE PRODUCT SUBSTITUTION FORM

3.04 SUBSTITUTION REQUEST FORM

To: Ayres Associates.

215 North Second Street

River Falls, Wisconsin 54022

Attn: Mark Paschke

PROJECT: _____

SPECIFIED ITEM: _____

Section_____Page_____Article/Paragraph_____

The undersigned request consideration of the following:

PROPOSED SUBSTITUTION: _____

MANUFACTURER:_____

REASON FOR
SUBSTITUTION:_____

SUPPORTING DATA ATTACHED: __Product Data, __Drawings, __Tests, __ Reports, __Samples

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified products.
2. Same warranty will be furnished for proposed substitution as for specified product.
3. Maintenance and service are readily available for proposed substitution.
4. Proposed substitution will not adversely effect other trades, or construction schedule.
5. The undersigned will pay for any changes to design, detailing, and connection costs caused by substitution requested.
6. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item.

SUBMITTED BY:

Signature: _____

Firm: _____

Address: _____

_____

Phone: _____ Fax: _____

Email: _____

ARCHITECT'S REVIEW AND ACTION:

____Substitution approved – Make submittals in accordance with Specifications.

____Substitution approved as noted – Make submittals in accordance with Specifications.

____Substitution rejected – Use specified products.

____Substitution request received too late – Use specified products.

Accepted By: _____ Dated: _____

END OF SECTION

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SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures.

C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

D. Section 01 50 00 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

F. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

G. Individual Product Specification Sections:

1. Advance notification to other sections of openings required in work of those sections.
2. Limitations on cutting structural members.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.

1. On request, submit documentation verifying accuracy of survey work.
2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:

1. Structural integrity of any element of Project.
2. Integrity of weather exposed or moisture resistant element.
3. Efficiency, maintenance, or safety of any operational element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate Contractor.
6. Include in request:
    a. Identification of Project.
    b. Location and description of affected work.
    c. Necessity for cutting or alteration.
    d. Description of proposed work and products to be used.
    e. Alternatives to cutting and patching.
    f. Effect on work of Owner or separate Contractor.
    g. Written permission of affected separate Contractor.
    h. Date and time work will be executed.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

1. Minimum of five years of documented experience.

1.06 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.

E. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

F. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

G. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of examination, preparation and installation procedures.
2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Contractor shall locate and protect survey control and reference points.

D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

G. Utilize recognized engineering survey practices.

H. Periodically verify layouts by same means.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation only.

1. Verify that construction and utility arrangements are as indicated.
2. Report discrepancies to Architect before disturbing existing installation.
3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.

C. Remove existing work as indicated and as required to accomplish new work.

1. Remove items indicated on drawings.
2. Relocate items indicated on drawings.

3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.

1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
   b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.

1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:

1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:

1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

D. Execute cutting and patching including excavation and fill to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.

E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing.

F. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

H. Restore work with new products in accordance with requirements of Contract Documents.

I. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

K. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

L. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

M. Make neat transitions. Patch work to match adjacent work in texture and appearance.

N. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site weekly and dispose off-site; do not burn or bury.

3.09 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Prohibit traffic from landscaped areas.

H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect and Owner seven days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.12 FINAL CLEANING

A. Execute final cleaning prior to Substantial Completion.

B. Use cleaning materials that are nonhazardous.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

1. Provide copies to Architect and Owner.

B. Accompany Architect on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Owner will occupy all of the building as specified in Section 01 10 00.

F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

H. Accompany Architect on Contractor's preliminary final inspection.

I. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

J. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor Reporting Responsibilities: Submit periodic Waste Disposal Reports; report landfill disposal, incineration, recycling, salvage, and reuse regardless of to whom the cost or savings accrues; use the same units of measure on required reports.

E. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 70 00 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.

1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to Owner.
3. Landfill Disposal: Include the following information:
    a. Identification of material.
    b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.

c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

4. Incinerator Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
   c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
5. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
   c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
6. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards.
   c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 60 00:

1. Relative amount of waste produced, compared to specified product.
2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Price.
3. Proposed disposal method for waste product.
4. Markets for recycled waste product.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.

1. Prebid meeting.
2. Preconstruction meeting.
3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.

1. Provide containers as required.
2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:

1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawingsand Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

1. Product data, with catalog number, size, composition, and color and texture designations.
2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

F. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:

1. Description of unit or system, and component parts.
2. Identify function, normal operating characteristics, and limiting conditions.
3. Include performance curves, with engineering data and tests.
4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

D. Include manufacturer's printed maintenance instructions.

E. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

F. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

G. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

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

D. Prepare data in the form of an instructional manual.

E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

L. Arrangement of Contents: Organize each volume in parts as follows:

1. Project Directory.
2. Table of Contents, of all volumes, and of this volume.
3. Operation and Maintenance Data: Arranged by system, then by product category.
    a. Source data.
    b. Product data, shop drawings, and other submittals.
    c. Operation and maintenance data.
    d. Field quality control data.
    e. Photocopies of warranties and bonds.

M. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

N. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
    a. Significant design criteria.
    b. List of equipment.
    c. Parts list for each component.
    d. Operating instructions.
    e. Maintenance instructions for equipment and systems.
    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
    a. Shop drawings and product data.
    b. Certificates.

O. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

P. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect , Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building roofing materials for re-roofing excluding removal of hazardous materials and toxic substances.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 10 00 - Summary: Description of items to be removed by Owner.

C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

D. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Site Plan: Indicate:

1. Areas for temporary construction and field offices.
2. Areas for temporary and permanent placement of removed materials.

C. Demolition firm qualifications.

D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

1. Minimum of five years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 DEMOLITION

A. Selective demolition of building roofing materials for re-roofing as follows:

1. Existing City Hall: Removal of existing membrane roofing and area of existing asphalt shingles including, but not limited to the following:
    a. Membrane Roofing Area:
        1) Complete removal of existing membrane roofing materials.
        2) Inspection of existing roof insulation, removal of areas of damaged roof insulation, replacement of damaged existing insulation with insulation matching the existing insulation manufacturer, product R-Value and thickness.
        3) Inspection of existing vapor retarder. removal of damaged areas of existing vapor retarder, replacement of damaged areas of vapor retarder with new vapor retarder of same type and thickness as the existing vapor retarder.
        4) Inspection of existing deck sheathing (substrate board), removal of damaged existing deck sheathing (substrate board), replacement of damaged deck sheathing (substrate board) with new deck sheathing (substrate board) matching the existing deck sheathing (substrate board) thickness.
    b. Asphalt Shingle Roofing Area:
        1) Complete removal of existing asphalt shingles, underlayment material and ice & water shield materials.
        2) Inspection of the existing wood roof sheathing for damage. Replacement of damaged wood roof sheathing matching the existing roof sheathing in material and thickness.
2. Existing Public Library: Removal of existing asphalt shingles including, but not limited to the following:
    a. Asphalt Shingle Roofing Area:
        1) Complete removal of existing asphalt shingles, underlayment material and ice & water shield materials.
        2) Inspection of the existing wood roof sheathing for damage. Replacement of damaged wood roof sheathing matching the existing roof sheathing in material and thickness.

B. Remove other items indicated, for recycling and _____.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with requirements in Section 01 70 00.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Comply with applicable requirements of NFPA 241.

3. Do not overload existing roof with materail storage, take precautions to prevent collapse of structure.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.

E. Protect existing structures and other elements to remain in place and not removed.

1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Hazardous Materials:

1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.

1. Comply with requirements of Section 01 74 19 - Construction Waste Management and Disposal.
2. Dismantle existing construction and separate materials.
3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Roof-mounted curbs.

B. Roofing nailers.

C. Roofing cant strips.

D. Concealed wood blocking, nailers, and supports.

E. Roof sheathing.

1.02 RELATED REQUIREMENTS

A. Section 01 22 00 - Unit Prices: Roof sheathing replacement.

B. Section 07 72 00 - Roof Accessories: Prefabricated roof curbs.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

B. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing 2003 (Reapproved 2017).

C. PS 20 - American Softwood Lumber Standard 2021.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide technical data on application instructions and roof sheathing.

C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Roof Sheathing: Oriented strand board wood structural panel; PS 2.

1. Grade: Structural 1 Sheathing.
2. Bond Classification: Exposure 1.
3. Size: 4 feet wide by 8 feet long.
4. Performance Category: Matching existing PERF CAT.
5. Span Rating: Matching existing.
6. Edges: Matching existing.
7. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.
8. Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

2.04 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. General Purpose Construction Adhesives: Comply with ASTM C557.

1. Products:
   a. Franklin International; Titebond GREENchoice Weatherproof Subfloor Adhesive: www.titebond.com/#sle.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.03 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

3.04 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

B. Provide wood curb at each roof opening except where specifically indicated otherwise; form corners by alternating lapping side members.

3.05 INSTALLATION OF CONSTRUCTION PANELS

A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

1. At long edges use sheathing clips where joints occur between roof framing members.
2. Nail panels to framing; staples are not permitted.

3.06 TOLERANCES

A. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.07 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for additional requirements.

3.08 CLEANING

A. Waste Disposal: See Section 01 74 19 - Construction Waste Management and Disposal.

1. Comply with applicable regulations.
2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.
4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07 01 50.19
PREPARATION FOR RE-ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Complete roof tear-off.

1. City Hall: Existing PVC membrane roofing and asphalt roofing system.
2. Public Library: Existing asphalt shingle roofing system.

B. Removal of Base Flashings.

C. Replacement of existing roofing system in preparation for new roofing system.

1. City Hall: New PVC membrane roofing and asphalt roofing system.
2. Public Library: New asphalt shingle roofing system.

D. Removal of existing flashing and counterflashings.

E. Temporary roofing protection.

1.02 RELATED REQUIREMENTS

A. Section 07 31 13 - Asphalt Shingles.

B. Section 07 51 00 - Built-Up Bituminous Roofing.

C. Section 07 54 00 - Thermoplastic Membrane Roofing.

D. Section 07 62 00 - Sheet Metal Flashing and Trim: Replacement of flashing and counterflashings.

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 22 00 - Unit Prices, for additional unit price requirements.

B. See Section 01 22 00 - Unit Prices, for additional unit price requirements.

C. Provide the following work using the unit price method.

1. New Insulation; City Hall Re-Roofing: Inspection of existing insulation, removal of damaged existing insulation, replacement of damaged insulation with new insulation matching the existing insulation manufacturer, R-Value and thickness:
   a. Basis of Measurement: By square foot.
   b. Basis of Payment: Includes inspection of existing insulation, removal of damaged existing insulation. Replace with new insulation matching the existing insulation manufacturer, R-Value and thickness.
2. New Deck Sheathing (Substrate Board) - Partial Removal; City Hall Re-Roofing (Damaged Substrate Board): Includes inspection of existing deck sheathing (substrate board), removal of damaged existing deck sheathing (substrate board), replacement of damaged deck sheathing (substrate board) with new deck sheathing (substrate board) matching the existing deck sheathing (substrate board) thickness.
   a. Basis of Measurement: By square foot.

b. Basis of Payment: Includes inspection of existing deck sheathing (substrate board) removal of existing deck sheathing (substrate board), replace with new deck sheathing (substrate board) of same thickness.

3. Repair of Existing Roof Vapor Barrier; City Hall RE-Roofing (Damaged Roof Vapor Retarder): Includes inspection of existing vapor retarder, removal of damaged existing vapor retarder, replacement of damaged areas of vapor retarder with new vapor retarder of same type and thickness as the existing vapor retarder.
   a. Basis of Measurement: By square foot.
   b. Basis of Payment: Includes inspection of existing vapor retarder, removal of existing damaged areas of vapor barrier, replace with new vapor retarder of same type and thickness as the existing vapor retarder.
4. Repair Existing Roof Wood Roof Sheathing; City Hall and Public Library Re-Roofing:
   a. Basis of Measurement: By square foot.
   b. Basis of Payment: Includes Inspection of the existing wood roof sheathing, replacement of damaged existing wood roof sheathing with wood roof sheathing matching the existing wood roof sheathing thickness.

1.04 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site and legally disposed of.

1.05 REFERENCE STANDARDS

A. ASTM C1153 - Standard Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging 2010 (Reapproved 2015).

1.06 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with affected mechanical and electrical work associated with roof penetrations.

B. Preinstallation Meeting: Convene one week before starting work of this section. Conduct meeting at Project site.

1. Attendees:
   a. Architect.
   b. Contractor.
   c. Owner.
   d. Installer.
   e. Roofing system manufacturer's field representative.
   f. Inspection and Testing Agency Representatives.
2. Meeting Agenda: Provide agenda to participants prior to meeting in preparation for discussions on the following:
   a. Removal and installation schedule.
   b. Necessary preparatory work.
   c. Protection before, during, and after roofing system installation.
   d. Removal of existing roofing system.
   e. Installation of new roofing system.
   f. Temporary roofing and daily terminations.
   g. Transitions and connection to and with other work.
   h. Inspections and testing of installed systems.

C. Schedule work to coincide with commencement of installation of new roofing system.

1.07 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Submit for each type of material.

C. Preconstruction Test Reports.

D. Materials Removal Company Qualification Statement.

E. Installer's Qualification Statement.

F. Preconstruction Testing Agency Qualification Statement.

1.08 QUALITY ASSURANCE

A. Materials Removal Company Qualifications: Company specializing in performing work of type specified with at least five years of documented experience.

1. Comply with EPA notification regulations prior to start of roofing removal work.
2. Comply with removal and disposal regulations of local authorities having jurisdiction (AHJ).

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience and approved by manufacturer.

1. When same installer as new roofing system, comply with related requirements of section indicated for new roofing system.

C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.

D. Preconstruction Testing: Conduct testing by an independent test agency, in accordance with provisions of Section 01 40 00 - Quality Requirements.

1. Infrared Roof Moisture Survey: Conduct ground-based, walk-over type survey of roofing system in accordance with ASTM C1153.
2. Submit report of roofing survey including thermal images of suspect roof areas and corresponding daytime photos of these same areas.
3. Provide required testing to locate hazardous materials, such as asbestos, by licensed agency as required for project location.

1.09 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.

B. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

1.10 FIELD CONDITIONS

A. Existing Roofing Systems:

1. City Hall Re-Roof: PVC single ply and asphalt shingles.

2. Public Library: Asphalt shingles.

B. Do not remove existing roofing membrane when weather conditions threaten the integrity of building contents or intended continued occupancy.

C. Maintain continuous temporary protection prior to and during installation of new roofing system.

D. Provide notice at least three days before starting activities that will affect normal building operations.

E. Verify that occupants have been evacuated from building areas when work on structurally impaired roof decking is scheduled to begin.

F. Owner will occupy building areas directly below re-roofing area.

1. Provide Owner with at least 48 hours written notice of roofing activities that may affect their operations and to allow them to prepare for upcoming activities as necessary.
2. Do not disrupt Owner's operations or activities.
3. Maintain access of Owner's personnel to corridors, existing walkways, and adjacent buildings.

G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.

H. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

1.11 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 COMPONENTS

A. See the following sections for additional information on components relating to this work:

1. Replacement and removal of existing roofing materials in preparation for new asphalt shingles, underlayment, inspection of existing wood roof sheathing and replacement of damaged wood roof sheathing, PVC membrane, inspection and replacement of damaged areas of existing roof insulation, vapor retarder and deck sheathing (substrate board), see Sections 07 31 13 - Asphalt Shingles and Section 07 54 00 - Thermoplastic Membrane Roofing.
2. Remove existing flashing and counterflashings in preparation for replacement of these materials as part of this work, see Section 07 62 00 for material requirements.

2.02 MATERIALS

A. Temporary Roofing Protection Materials:

1. Contractor's responsibility to select appropriate materials for temporary protection of roofing areas as determined necessary for this work.

2.03 ACCESSORIES

A. Fasteners: Type and size as required and compatible with existing and new roofing system to resist local wind uplift.

B. Roof Vent Pipe Extension: Solid-wall PVC fitting consisting of pipe and splice sleeve inserts, configured for insertion and sealing to existing plumbing vent piping, sized to fit inside diameter of plumbing vent piping, enabling extension of piping to field-determined height to meet local building code requirements for plumbing vent pipe height above existing roof level.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing roof surface has been cleared of materials being removed from existing roofing system and ready for next phase of work as required.

3.02 PREPARATION

A. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

B. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.

C. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

D. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

E. Sweep roof surface clean of loose matter.

F. Remove loose refuse and dispose of properly off-site and legally dispose of material.

3.03 MATERIAL REMOVAL

A. General: Notify Owner and Architect each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.

B. Remove only existing roofing materials that can be replaced with new materials the same day.

C. Remove metal counter flashings.

D. Remove roofing membrane, perimeter base flashings, flashings around roof protrusions, pitch pans and pockets.

E. Cut and lay flat any membrane blisters.

F. Remove damaged insulation and fasteners, cant strips, and blocking.

G. Repair existing wood sheathing surface to provide smooth working surface for new roof system.

3.04 INSTALLATION

A. Coordinate scope of this work with requirements for installation of new roofing system, see Sections 06 10 00 - Rough Carpentry, 07 31 13 - Asphalt Shingles and 07 54 00 - Thermoplastic Membrane Roofing for additional requirements.

3.05 FIELD QUALITY CONTROL

A. Independent agency inspection and testing will be provided under provisions of Section 01 40 00.

B. Inspection firm will identify the approximate limits to material removal.

C. Testing will identify the condition of existing materials and their reuse, repair or removal.

D. Test Reports: Indicate existing insulation moisture content.

3.06 PROTECTION

A. Provide temporary protective sheeting over uncovered deck surfaces.

B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with weights.

C. Provide for surface drainage from sheeting to existing drainage facilities.

D. Do not permit traffic over unprotected or repaired deck surface.

3.07 SCHEDULES

A. City Hall Entire Roofing Area: Remove existing perimeter flashings, base flashings, counter flashings, vent stack flashings, roofing membrane, and inspect for damaged insulation, vapor retarder and deck sheathing (substrate board). Replace damaged insulation, vapor retarder and deck sheathing (substrate board) prior to re-roofing, add new cover board over existing insulation.Refer to Section 07 54 00 - Thermoplastic Membrane Roofing for new cover board and replacement of City Hall PVC membrane roofing. At area of existing asphalt shingles, Remove existing flashings, asphalt shingles, underlayment, ice and water shield and metal roof edge. Inspect existing wood roof sheathing and replace damaged wood roof sheathing with material matching existing sheathing thickness (refer to Section 06 10 00 - Rough Carpentry for material) prior to re-roofing. Refer to Section 07 31 13 - Asphalt Shingles for

replacement.

B. Public Library Entire Roofing Area: Remove existing flashings, asphalt shingles, underlayment, ice and water shield and metal roof edge. Inspect existing wood roof sheathing and replace damaged wood roof sheathing with material matching existing sheathing thickness (refer to Section 06 10 00 - Rough Carpentry for material) prior to re-roofing. Refer to Section 07 31 13 - Asphalt Shingles for replacement of Public Library roof.

END OF SECTION

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SECTION 07 31 13
ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Asphalt shingle roofing.

B. Flexible sheet membranes for eave protection, underlayment, and valley protection.

C. Associated metal flashings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Roof sheathing.

B. Section 07 54 00 - Thermoplastic Membrane Roofing: Protection membrane between PVC membrane and asphalt based products.

C. Section 07 62 00 - Sheet Metal Flashing and Trim: Edge and cap flashings.

D. Section 07 71 23 - Manufactured Gutters and Downspouts.

E. Section 07 72 00 - Roof Accessories: Roof and gutter de-icing system used at roof edges, valleys, gutters and downspouts.

1.03 REFERENCE STANDARDS

A. ASTM D225 - Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules 2007.

B. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing 2017 (Reapproved 2023).

C. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection 2021.

D. {RSTEMP#2601}ASTM D3161/D3161M - Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method){CH#39040}.

E. ASTM D3462/D3462M - Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules 2019.

F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

G. ASTM D7158/D7158M - Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method) 2020.

H. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a, with Editorial Revision (2023).

I. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings 2020a.

J. NRCA (RM) - The NRCA Roofing Manual 2017.

K. NRCA MS104 - The NRCA Steep Roofing Manual; National Roofing Contractors Association; 2001, Fifth Edition, with interim updates.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating material characteristics and performance criteria.

C. Shop Drawings: For metal flashings, indicate specially configured metal flashings.

D. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern .

E. Manufacturer's Installation Instructions: Indicate installation criteria and procedures.

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

G. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 01 60 00 - Product Requirements, for additional provisions.
2. Extra Shingles: 100 sq ft of each type and color.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual.

1. Maintain one copy of document on site.

B. Source Limitations: Obtain ridge and hip cap shingles, ridge vents, underlayment and eave protection membrane from single source from single manufacturer.

1.06 MOCK-UP

A. Provide mock-up of 100 sq ft, including underlayment, eave protection membrane, and associated flashings.

B. Locate where directed.

C. Mock-up may remain as part of the Work.

1.07 FIELD CONDITIONS

A. Do not install shingles or eave protection membrane when surface temperatures are below 45 degrees F.

1.08 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Special Warranty: Standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Manufacturing defects:
      1) Warranty period for Shingles: Limited Lifetime.
   b. Structural failures including failure of asphalt shingles to self-seal after a reasonable time.
2. Basis of Design: GAF System Plus Limited Warranty: Subject to compliance with requrements, warranty by other lsted manufactures may be considered.
   a. Warranty Period: 50 years from date of Substantial Completion, prorated, with first 12 years nonprorated.
3. Basis of Design: Wind-Speed Warranty (GAF WINDPROVEN Limited Wind Warranty: Asphalt shingles will resist blow-off or damage caused by wind speeds. No maximum wind speed limitation.
   a. Warranty Period: 15 years from date of Substantial Completion.
4. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor 10 years from date of Substantial Completion.

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

1. Roofing Installation to be performed by Manufacturer's Certified or Master Elite Roofing Contractor:
2. Warranty Period: 12 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Asphalt Shingles:

1. Basis of Design: GAF Materials Corporation;ProductTimberline® Lifetime Shingles, Natural Shadow® Roofing Shingles: www.gaf.com/#sle. Subject to compliance with requirements, comparable product by the following manufacturers may be considered:
   a. Atlas Roofing Corporation: www.atlasroofing.com/#sle.
   b. Owens Corning Corp: www.owenscorning.com/#sle.
   c. Certainteed: www.certainteed.com/#sle.
   d. Substitutions: See Section 01 60 00 - Product Requirements.
2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ASPHALT SHINGLES

A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M.

1. Fire Resistance: Class A, complying with ASTM E108.
2. Wind Resistance (Uplift): Class H, when tested in accordance with ASTM D7158/D7158M.
3. Warranted Wind Speed: Not greater than 110 mph.

4. Algae Resistant.
5. Self-sealing type.
6. Style: Square.
7. Color: As selected by Architect.

2.03 SHEET MATERIALS

A. Re-Roofing Eave Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface.

1. Basis of Design: GAF StormGuard® Leak Barrier: www.gaf.com/#sle. Subject to compliance with requirements, comparable product by one of the following manufacturers may be considered:
   a. GAF; Product, Weather Watch®: www.gaf.com/#sle.
   b. Atlas Roofing Corporation: www.atlasroofing.com/#sle.
   c. Owens Corning Corp: www.owenscorning.com/#sle.
   d. Certainteed: www.certainteed.com/#sle.
   e. GCP Applied Technologies Grace Ice & Water Shield.
   f. Substitutions: See Section 01 60 00 - Product Requirements.

B. Underlayment: Synthetic non-asphaltic sheet, breather type, water repellant, UV stabilized polypropylene construction, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams. Meets or exceeds ASTM D226 and D4869.

1. Type: Woven polypropylene with anti-slip polyolefin coating on both sides.
2. Self Sealability: Passing nail sealability test specified in ASTM D1970/D1970M.
3. Flammability: Minimum of Class A, when tested in accordance with ASTM E108.
4. Ultraviolet (UV) Resistance and Weatherability: Approved in writing by manufacturer for exposure to weather for minimum of six months.
5. Low Temperature Flexibility: Passing test specified in ASTM D1970/D1970M.
6. Water Vapor Permeance: Vapor permeable; minimum of 16 perms, when tested in accordance with ASTM E96/E96M Procedure A (desiccant method).
7. Performance: Meet or exceed requirements for ASTM D226/D226M, Type II asphalt-saturated organic felt.
8. Liquid Water Transmission: Passes ASTM D4869/D4869M.
9. Functional Temperature Range: Minus 70 degrees F to 212 degrees F.
10. Fasteners: As recommended by manufacturer or building code qualification report or approval.
11. Manufacturers:
    a. Basis of Design: GAF Deck-Armor™ Premium Breathable Roof Deck Protection Underlayment: www.gaf.com/#sle. Subject to compliance with requirements, comparable product by the following may be considered:
       1) Owens Corning Corp: www.owenscorning.com/#sle.
       2) Certainteed: www.certainteed.com/#sle.
          (a) Dryroof® SA Waterproofing Underlayment.
       3) Substitutions: See Section 01 60 00 - Product Requirements.

2.04 ACCESSORIES

A. Roofing Nails: Standard round wire shingle type, galvanized steel, minimum 3/8 inch head diameter, 10 gauge, 0.128 inch nail shank diameter, 1-1/2 inch long and complying with ASTM F1667.

B. Staples: Standard wire shingle type, of hot dipped zinc coated steel, 16 wire gage, 0.0508 inch diameter, 15/16 inch crown width, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.

C. Plastic Cement: ASTM D4586/D4586M, asphalt roof cement.

D. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, free of toxic solvents.

E. Rigid Ridge Vent: Manufacturer's standard rigid section high-density polypropylene or other UV-stabilized plastic ridge vent with nonwoven geotextile filter strips; for use under ridge shingles.

1. Basis of Design: GAF Materials Corporation; Cobra® Ridge Runner™ Ridge Vent. Subject to compliance with requirements, comparable product by the following manufacturers may be considered:
   a. Atlas Roofing Corporation: www.atlasroofing.com/#sle.
   b. Owens Corning: www.owenscorning.com/#sle.
   c. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 METAL FLASHINGS

A. Metal Flashings: Provide sheet metal eave edge, gable edge, ridge, ridge vents, chimney flashing, dormer flashing, and other flashing indicated.

1. Apron Flashings: Fabricate with lower flange a minimum of 5 inches (125 mm) over and 4 inches (100 mm) beyond each side of downslope asphalt shingles and 6 inches (150 mm) up the vertical surface.
2. Step Flashings: Fabricate with a headlap of 2 inches (50 mm) and a minimum extension of 5 inches (125 mm) over the underlying asphalt shingle and up the vertical surface.
3. Open Valley Flashings: Fabricate in lengths not exceeding 10 feet (3 m) with 1-inch-(25-mm-) high inverted-V profile at center of valley and equal flange widths of 10 inches (250 mm).
4. Drip Edges: Fabricate in lengths not exceeding 10 feet with 2-inch (50-mm) roof-deck flange and 1-1/2-inch (38-mm) fascia flange with 3/8-inch (9.6-mm) drip at lower edge.
5. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 4 inches (100 mm) from pipe onto roof.
6. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
7. Hem exposed edges of flashings minimum 1/4 inch on underside.
8. Coat concealed surfaces of flashings with bituminous paint.

B. Aluminum Sheet Metal: Prefinished aluminum, 26 gage, 0.017 inch minimum thickness; PVC coating, color as selected by Architect from fabricator's standard colors.

C. Bituminous Paint: Acid and alkali resistant type; black color.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions prior to beginning work.

B. Verify that roof deck is of sufficient thickness to accept fasteners.

C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.

D. Verify roof openings are correctly framed.

E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

A. Remove all existing roofing down to the roof deck.

B. Verify that the deck is dry, sound, clean and smooth. It shall be free of any depressions, waves, and projections.

C. Cover with sheet metal, all holes over 1 inch (25mm) in diameter, cracks over 1/2 inch (12mm) in width, loose knots and excessively resinous areas.

D. Replace damaged roof sheathing with new materials matching existing adjacent sheathing..

E. At areas where eave protection membrane is to be adhered to substrate, fill knot holes and surface cracks with latex filler.

F. Broom clean deck surfaces before installing underlayment or eave protection.

G. Install eave edge and gable edge flashings tight with fascia boards, weather lap joints 2 inches and seal with plastic cement, and secure flange with nails spaced 16 inches on center.

3.03 INSTALLATION - EAVE PROTECTION MEMBRANE

A. Install eave protection membrane from eave edge to minimum 8 ft up-slope beyond interior face of exterior wall.

B. Install eave protection membrane in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

3.04 INSTALLATION - UNDERLAYMENT

A. Underlayment At Roof Slopes Greater Than 4:12: Install underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 6 inches. Stagger end laps of each consecutive layer. Nail in place. Weather lap minimum 4 inches over eave protection.

B. Weather lap and seal watertight with plastic cement any items projecting through or mounted on roof.

C. Metal-Flashed, Open-Valley Underlayment: Install two layers of 36-inch- (914-mm-) wide felt underlayment centered in valley. Stagger end laps between layers at least 72 inches (1830

mm). Lap ends of each layer at least 12 inches (300 mm) in direction to shed water, and seal with asphalt roofing cement. Fasten each layer to roof deck with felt underlayment nails.

1. Lap roof-deck felt underlayment over first layer of valley felt underlayment at least 6 inches (150 mm).

3.05 INSTALLATION - VALLEY PROTECTION

A. Install one ply of self-adhering sheet underlayment, polyethylene faced (eave protection membrane product), minimum 36 inches wide, centered over valleys.

B. Install flexible flashing in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

C. Weather lap joints minimum 6 inches.

D. Nail in place minimum 18 inches on center, 1 inch from edges.

E. At Exposed Valleys: Install minimum 36 inches wide eave protection membrane centered over open valley. Centered over eave protection membrane, install one layer of sheet metal flashing, minimum 24 inches wide, centered over open valley and crimped to guide water flow, weather lap joints minimum 2 inch wide band of lap cement along each edge of first layer, press roll roofing into cement, nail in place minimum 18 inches on center and 1 inch from edges.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

A. Install flashings in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

B. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.

C. Secure in place with nails at 16 inches on center, and conceal fastenings.

D. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement.

E. Rake Drip Edges: Install rake drip edge flashings over underlayment and fasten to roof deck.

F. Eave Drip Edges: Install eave drip edge flashings below eave protection membrane and fasten to roof sheathing.

3.07 INSTALLATION - SHINGLES

A. Install shingles in accordance with manufacturer's instructions manufacturer's instructions and NRCA (RM) applicable requirements.

1. Fasten individual shingles using 6 nails per shingle, staples are not permitted, or as required by code, whichever is greater.
2. Fasten strip shingles using 6 nails per strip, or as required by code, whichever is greater.

B. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over full roof area, and provide double course of shingles at eaves.

C. Project first course of shingles 3/4 inch beyond fascia boards.

D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.

E. Open Valleys: Cut and fit asphalt shingles at open valleys, trimming upper concealed corners of shingle strips. Maintain uniform width of exposed open valley from highest to lowest point.

1. Set valley edge of asphalt shingles in a 3-inch- (75-mm-) wide bed of asphalt roofing cement.
2. Do not nail asphalt shingles to metal open-valley flashings.

F. Ridge Vents: Install continuous ridge vents over asphalt shingles according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.

G. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

1. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

H. Cap hips and ridges with individual shingles, maintaining 5 inch weather exposure. Place to avoid exposed nails.

I. After installation, place one daub of plastic cement, one inch diameter under each individual shingle tab exposed to weather, to prevent lifting.

J. Coordinate installation of roof mounted components or work projecting through roof with weather tight placement of counterflashings.

K. Complete installation to provide weather tight service.

3.08 PROTECTION

A. Do not permit traffic over finished roof surface.

THIS SECTION CONTINUES WITH THE ROOF INSTALLER'S WARRANTY

3.09 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner:
   _____.
2. Address:
   _____.
3. Building Name/Type:
   _____.
4. Address:
   _____.
5. Area of Work:
   _____.
6. Acceptance Date:
   _____.
7. Warranty Period:
   _____.
8. Expiration Date:
   _____.

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

C. NOW THEREFORE Roofing Installer 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 a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
   a. lightning;
   b. peak gust wind speed exceeding _____ mph (m/sec);
   c. fire;
   d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
   e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
   f. vapor condensation on bottom of roofing; and
   g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or

faults or defects of work.

4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, 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 on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. 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 on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature:
   _____.
2. Name:
   _____.
3. Title:
   _____.

END OF SECTION

SECTION 07 54 00
THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Adhered system with thermoplastic roofing membrane.

B. Insulation, flat and tapered.

C. Vapor retarder.

1. Vapor retarder existing:
    a. Inspect existing roof vapor retarder for damage.
    b. Replace damaged areas of vapor retarder with material matching existing.

D. Deck sheathing (substrate board).

1. Deck sheathing existing:
    a. Inspect existing deck sheathing (substrate board) for damage.
    b. Replace damaged areas of existing deck sheathing.

E. Cover board.

F. Flashings.

G. Roofing cant strips, stack boots, roofing expansion joints, and walkway pads.

1.02 RELATED REQUIREMENTS

A. Section 01 22 00 - Unit Prices for unit prices for inspection and removal and replacement of damaged substrate board (deck sheathing), vapor retarder, and insulation.

B. Section 06 10 00 - Rough Carpentry: Wood cant strips.

C. Section 07 01 50.19 - Preparation for Re Roofing: Removal of existing membrane roofing, inspection for damage to, and replacement of existing insulation, existing vapor retarder, and existing substrate board (deck sheathing).

D. Section 07 31 13 - Asphalt Shingles: For portion of City Hall re-roofing with asphalt-coated glass felt, mineral granule surfaced reinforced asphalt shingles.

E. Section 07 71 00 - Roof Specialties: Prefabricated or field fabricated coping, fascia, prefabricated roofing expansion joint and control joint flashing.

1.03 REFERENCE STANDARDS

A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation 2022.

B. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.

C. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board 2022a.

D. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing 2021.

E. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces 2011 (Reapproved 2019).

F. FM (AG) - FM Approval Guide Current Edition.

G. FM DS 1-28 - Wind Design 2015, with Editorial Revision (2022).

H. NRCA (RM) - The NRCA Roofing Manual 2017.

I. NRCA (WM) - The NRCA Waterproofing Manual 2021.

J. UL (FRD) - Fire Resistance Directory Current Edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.

C. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, and paver layout.

D. Samples for Verification: Submit two samples 12 by 12 inches in size illustrating insulation, colored coating, and PVC membrane.

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

F. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.

G. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.

H. Manufacturer's qualification statement.

I. Installer's qualification statement.

J. Testing firm's qualification statement.

K. Specimen Warranty: For approval.

L. Warranty Documentation:

1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
2. Submit installer's written verification that installation complies with warranty conditions for waterproof membrane.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum ten years of documented experience.

B. Installer Qualifications: Company specializing in performing work of this section with at least five years of documented experience and approved by manufacturer.

C. Asphalt-Based Products: Asphalt-based products are incompatible with thermoplastic polyvinyl chloride (PVC) membrane roofing and are not allowed except when protection membrane is provided between PVC membrane and asphalt based product.

D. Single-Source Responsibility for Thermoplastic Polyvinyl Chloride (PVC) Membrane Roofing: Provide and install products from a single manufacturer and single source.

1.07 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.

B. Deliver materials in manufacturer's original containers, dry and undamaged, with seals intact, and labeled with manufacturer's name, product brand name and type, date of manufacture unless otherwise indicated, and directions for storing and mixing with other components.

C. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

D. Store materials in weather protected environment, clear of ground and moisture.

E. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

F. Protect foam insulation from direct exposure to sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

G. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.08 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather.

B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 90 degrees F.

C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.09 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Material Warranty: Provide membrane manufacturer's warranty agreeing to replace material that shows manufacturing defects within five years after installation.

C. Special Warranty: Manufacturer's standard or customized form, without monetary limitation (NDL), in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes membrane roofing, base flashings, replaced roof insulation, fasteners, cover boards, replaced substrate board, and other components of membrane roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.

D. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of membrane roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Thermoplastic Polyvinyl Chloride (PVC) Membrane Roofing Materials:

1. Basis of Design: Duro-Last® 60-Mil (DL60) Membrane. Subject to compliance with requirements, comparable product by the following manufacturers may be considered:
   a. Carlisle SynTec Systems; Sure-Flex PVC KEE: www.carlisle-syntec.com/#sle.
   b. GAF; 60 mil: www.gaf.com/#sle.
   c. Johns Manville: www.jm.com/#sle.
   d. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulation:

1. Inspect existing insulation for damage, remove damaged insulation and replace with insulation matching existing material, R-value and thickness.

2.02 ROOFING - UNBALLASTED APPLICATIONS (FULLY ADHERED)

A. Thermoplastic Membrane Roofing: One ply membrane, fully adhered.

B. Roofing Assembly Requirements:

1. Solar Reflectance Index (SRI): 25, minimum, calculated in accordance with ASTM E1980.
   a. Field applied coating may not be used to achieve specified SRI.
2. Roof Covering External Fire Resistance Classification: UL (FRD) Class A.
3. Factory Mutual Classification: Class 1 and windstorm resistance of 1-90, in accordance with FM DS 1-28.

C. Acceptable Insulation Types - Constant Thickness Application: Any of types specified.

1. Minimum 2 layers of insulation board matching existing insulation.
2. Bottom layer of polyisocyanurate or extruded polystyrene board covered with single layer of deck sheathing (substrate board).

D. Acceptable Insulation Types: Any type that meets requirements and is approved by membrane manufacturer for application.

2.03 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

A. Membrane Roofing Materials:

1. PVC: Polyvinyl chloride (PVC) complying with ASTM D4434/D4434M, Type III, sheet contains reinforcing fibers or reinforcing fabrics.
   a. Thickness: 60 mil, 0.060 inch, minimum.
2. Sheet Width: Factory fabricated into widest possible sheets.
   a. Adhered Application: Limit width to 120 inches, maximum, when ambient temperatures are less than 40 degrees F for extended period of time during installation.
3. Solar Reflectance: 25, minimum, initial, and 25, minimum, 3-year, certified by Cool Roof Rating Council (CRRC).
4. Thermal Emissivity: 0.87, minimum, initial, and 0.89, minimum, 3-year, certified by Cool Roof Rating Council.
5. Color: As selected by Architect from manufacturer's full color range.

B. Seaming Materials: As recommended by membrane manufacturer.

C. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials.

1. Fire-retardant adhesive.

D. Flexible Flashing Material: Same material as membrane.

E. Protection Membrane Between PVC Membrane and Asphalt Based Product: Specially formulated to be compatible with asphalt-based products for tie-ins between asphalt-based products (Ice & Water Shield) and PVC membranes. Composed of a black PVC film laminated to both sides of a weft-inserted reinforced fabric, resistant to ultraviolet rays, microorganisme, caustic chemicals, petroleum products, animal fats and acids.

1. Basis of Design Product: Duro-Last® A.R.P. Membrane manufactured by Duro-Last: www.duro-last.com. Subject to compliance with requirements, comparable product by the listed PVC membrane roofing manufacturers may be considered.

2.04 DECK SHEATHING (SUBSTRATE BOARD)

A. Deck Sheathing: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.

1. Thickness: matching existing, fire-resistant.
2. Products:
   a. Georgia-Pacific; DensDeck: www.densdeck.com/#sle.
   b. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle.
   c. USG Corporation; Securock Ultralight Glass-Mat Roof Board: www.usg.com/#sle.
   d. USG Corporation; Securock Ultralight Coated Glass-Mat Roof Board: www.usg.com/#sle.
   e. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 COVER BOARDS

A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.

1. Thickness: 1/2 inch thick, fire-resistant.
2. Products:
   a. Georgia-Pacific; DensDeck: www.densdeck.com/#sle.
   b. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle.
   c. Georgia-Pacific; DensDeck StormX with EONIC Technology: www.densdeck.com/#sle.
   d. Substitutions: See Section 01 60 00 - Product Requirements.

2.06 INSULATION

A. Match existing, manufacturer, type, R-Value and thickness.

1. Provide one of the following types:
   a. Polyisocyanurate (ISO) board insulation.
      -or-
   b. Extruded polystyrene (XPS) board insulation.

B. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.

1. Classifications:
   a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
      1) Class 2 - Faced with coated glass fiber mat facers on both major surfaces of the core foam.
      2) Compressive Strength: Classes 1-2-3, Grade 3, 25 psi (172 kPa), minimum.
      3) Thermal Resistance, R-value: At 1-1/2 inches thick; Class 1, Grades 1-2-3, 8.4 (1.48), minimum, at 75 degrees F.
2. Board Size: 48 by 96 inches.
3. Board Thickness: Matchig existing.
4. Board Edges: Square.
5. Products:
   a. Matching existing.

C. Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578, with natural skin surface.

1. Board Size: 48 by 96 inches.
2. Board Thickness: 1-1/2 inches.
3. Tapered Board: Slope as indicated; minimum thickness 1/4 inch; fabricate of fewest layers possible.
4. Board Edges: Square.
5. Type and Thermal Resistance, R-value (RSI-value): Type IV, 5.0 (0.88), minimum, at 1 inch thick and at 75 degrees F.
6. Type and Compressive Resistance: Type IV, 25 psi (173 kPa), minimum.
7. Type and Board Density: Type IV, 1.45 lb per cu ft (23 kg/cu m), minimum.
8. Type and Water Absorption: Type IV, 0.3 percent by volume, maximum, by total immersion.

2.07 INSULATION ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

C. Full-Spread Applied Insulation Adhesive: Insulation manufacturer's recommended spray-applied, low-rise, two-component urethane adhesive formulated to attach roof insulation to substrate or to another insulation layer.

D. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick, factory primed.

1. Product: Subject to compliance with requirements, provide one of the following:
   a. Georgia-Pacific Corporation; Dens Deck: www.densdeck.com/#sle.
   b. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle.
   c. Georgia-Pacific; DensDeck StormX with EONIC Technology: www.densdeck.com/#sle.
   d. Substitutions: See Section01 60 00 - Product Requirements.

2.08 ACCESSORIES

A. Prefabricated Roofing Expansion Joint Flashing: See Section 07 71 00.

B. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.

C. Cant Strips: Wood, pressure preservative treated; see Section 06 10 00.

D. Sheathing Joint Tape: Paper type, 6 inches wide, self adhering.

E. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self adhering.

F. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.

1. Length as required for thickness of insulation material and penetration of deck substrate, with metal washers.

G. Membrane Adhesive: As recommended by membrane manufacturer.

H. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.

I. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.

J. Insulation Adhesive: As recommended by insulation manufacturer.

K. Sealants: As recommended by membrane manufacturer.

L. Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.

1. Composition: Roofing membrane manufacturer's standard.
2. Size: Manufacturer's standard size.
3. Surface Color: As selected by Architect from manufacturer's standard colors.
4. Products:
   a. Basis of Design: Duro-Last Roof Trak® III Walkway Pad. Subject to compliance with requirements, comparable product from listed PVC membrane roofing manufactures may be considered.
      1) Single-Source Responsibility for Polyvinyl Chloride (PVC) Membrane Roofing Accessories: Provide and install products from a single manufacturer and single source.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing roof surface has been cleared of materials being removed from existing roofing system and ready for re-roofing phase of work as required.

B. Verify the existing deck is supported and secure.

C. Verify existing deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of re-roofi system.

D. Verify existing deck surfaces are dry and free of snow or ice.

E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips and reglets are in place.

3.02 PREPARATION - METAL DECK

A. After removal of existing roof membrane Inspect existing insulation, existing insulation, vapor retarder and deck sheathing (substrate board) for damage. Remove and replace damaged

existing insulation, existing vapor retarder, and existing deck sheathing (substrate board)
Install new deck sheathing (substrate board), vapor retarder, insulation and cover board on metal deck:

1. Lay with long side at right angle to flutes; stagger end joints; provide support at ends.
2. Cut sheathing cleanly and accurately at roof breaks and protrusions to provide smooth surface.
3. Tape joints.
4. Mechanically fasten sheathing to roof deck, or secure sheathing to roof deck with continuous mopping of adhesive, in accordance with roofing manufacturer's instructions.
    a. Over patched roof area, fasten sheathing using six fasteners with washers per sheathing board (substrate board) or secure sheathing to roof deck with continuous mopping of adhesive on each flute.

3.03 INSTALLATION, GENERAL

A. Perform work in accordance with manufacturer's instructions, NRCA (RM), and NRCA (WM) applicable requirements.

B. Do not apply roofing membrane during cold or wet weather conditions.

C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.

D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

3.04 INSTALLATION - VAPOR RETARDER AND INSULATION, UNDER MEMBRANE

A. Install vapor retarder to deck sheathing (substrate board) with adhesive in accordance with manufacturer's instructions.

1. Extend vapor retarder under cant strips and blocking to deck edge.
2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.

B. Ensure vapor retarder is clean and dry, continuous, and ready for application of insulation.

C. Attachment of Insulation: Embed each layer of insulation in adhesive in full contact, in accordance with roofing and insulation manufacturers' instructions.

D. Cover Boards: Embed cover board in adhesive in full contact or mechanically fasten cover boards in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual requirements.

E. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.

F. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.

G. On metal deck, place boards parallel to flutes with insulation board edges bearing on deck flutes.

H. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

I. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.

J. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.

K. Do not install more insulation than can be covered with membrane in same day.

3.05 INSTALLATION - MEMBRANE

A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

B. Shingle joints on sloped substrate in direction of drainage.

C. Fully Adhered Application: Apply adhesive to substrate at rate as recommended by PVC membrane manufacturer . Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.

D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

E. At intersections with vertical surfaces:

1. Extend membrane over cant strips and up a minimum of 4 inches onto vertical surfaces.
2. Fully adhere flexible flashing over membrane and up to nailing strips.

F. Around roof penetrations, seal flanges and flashings with flexible flashing.

G. Install roofing expansion joints where indicated. Make joints watertight.

1. Install prefabricated joint components in accordance with manufacturer's instructions.

H. Coordinate installation of roof drains and related flashings.

3.06 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway product at all roof access points, service units, high traffic areas and locations indicated on Drawings. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions. Space pad joints to permit drainage.

1. Prior to inspection of the walkway pad installation by the roofing membrane representative, attach only one side of any walkway pad that will be covering any field seams. The manufacturer's representitive will inspect the entire field seam. After the inspection, hot-air weld the remaining side to complete the attachment of the pad.

3.07 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for additional requirements.

B. Owner will provide testing services, and Contractor to provide temporary construction and materials for testing in accordance with requirements.

C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.

3.08 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Remove bituminous markings from finished surfaces.

C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

D. Repair or replace defaced or damaged finishes caused by work of this section.

3.09 PROTECTION

A. Protect installed roofing and flashings from construction operations.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

THIS SECTION CONTINUES WITH THE ROOFING INSTALLER'S WARRANTY

3.10 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner:
   _____.
2. Address:
   _____.
3. Building Name/Type:
   _____.
4. Address:
   _____.
5. Area of Work:
   _____.
6. Acceptance Date:
   _____.
7. Warranty Period:
   _____.
8. Expiration Date:
   _____.

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

C. NOW THEREFORE Roofing Installer 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 a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
   a. lightning;
   b. peak gust wind speed exceeding _____ mph (m/sec);
   c. fire;
   d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
   e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
   f. vapor condensation on bottom of roofing; and
   g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or

faults or defects of work.

4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, 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 on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. 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 on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature:
   _____.
2. Name:
   _____.
3. Title:
   _____.

END OF SECTION

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SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Field fabricated sheet metal items, including flashings and counterflashings and other items as indicated on the Drawings as sheet metal trim.

B. Sealants for joints within sheet metal fabrications.

C. Reglets and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood nailers for sheet metal work.

B. Section 06 10 00 - Rough Carpentry: Field fabricated roof curbs.

C. Section 07 92 00 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

D. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

E. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

G. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing 2017 (Reapproved 2023).

H. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing 2015a (Reapproved 2021).

I. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free 2007 (Reapproved 2018).

J. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

K. CDA A4050 - Copper in Architecture - Handbook current edition.

L. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Samples: Submit two samples 6 by 6 inch in size illustrating metal finish color.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Maintain one copy of each document on site.

C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with a minimum of five years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sheet Metal Flashing and Trim Manufacturers:

1. OMG Roofing Products: www.omgroofing.com/#sle.
2. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FABRICATORS

A. Sheet Metal Flashing and Trim Fabricators:

1. Berwald Roofing and Sheet Metal; 2440 Charles Street, North St. Paul, MN 55109; Phone: (651) 777-7411.

2. John A. Dalsin & Son; 2830 S. 20th Avenue, Minneapolis, MN 55407; Phone (612) 729-9334.
3. MG McGrath Architectural Surfaces; 1387 Cope Avenue E, Maplewood, MN 55109; Phone: (651) 704-0300.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 SHEET MATERIALS

A. Pre-Finished Aluminum: ASTM B 209 (ASTM B 209M); 0.063 inch thick; plain finish shop pre coated with Kynar 500 Fluorucarbon coating of color as selected.

1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.

2.04 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

F. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

2.05 ACCESSORIES

A. Fasteners: Stainless steel, with soft neoprene washers.

B. Underlayment: ASTM D2178/D2178M, glass fiber roofing felt.

C. Slip Sheet: Rosin sized building paper.

D. Primer: Zinc chromate type.

E. Protective Backing Paint: Asphaltic mastic, ASTM D4479 Type I.

F. Concealed Sealants: Non-curing butyl sealant.

G. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

1. Manufacturers:
   a. Franklin International, Inc; Titebond WeatherMaster Metal Roof Sealant: www.titebond.com/#sle.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

H. Plastic Cement: ASTM D4586/D4586M, Type I.

I. Reglets: Surface mounted type, galvanized steel; face and ends covered with plastic tape.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 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. Torch cutting of sheet metal flashing and trim is not permitted.

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 fabricator or manufacturers of dissimilar metals.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.

E. 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.

1. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. 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 or bayonet-type 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 elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
2. Aluminum: Use aluminum or stainless-steel fasteners.
3. Stainless Steel: Use stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

3.04 ROOF FLASHING INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

B. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:

1. Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
2. Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for lead flashing on vent piping.

3.05 INSTALLATION

A. Insert flashings into reglets to form tight fit; secure in place with lead wedges; seal flashings into reglets with sealant.

B. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..

C. Apply plastic cement compound between metal flashings and felt flashings.

D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

E. Seal metal joints watertight.

3.06 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

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SECTION 07 71 00
ROOF SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured or fabricated roof specialties, including copings and fascias.

B. Roof control and expansion joint covers.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2022.

B. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

C. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels; 2013.

D. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

E. NRCA ML104 - The NRCA Roofing and Waterproofing Manual; National Roofing Contractors Association; Fifth Edition, with interim updates.

F. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

G. SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; Single Ply Roofing Industry; 2011. (ANSI/SPRI/FM 4435/ES-1)

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.

C. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

D. Samples: Submit two appropriately sized samples of coping, control joint cover, expansion joint cover, and fascia in size, illustrating component shape, finish, and color. Color to match existing.

E. Manufacturer's Installation Instructions: Indicate special procedures, fasteners, supporting members, and perimeter conditions requiring special attention.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) details.

1. Maintain one copy on project site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufactured Parapet Copings:

1. Architectural Products Co: www.archprod.com/#sle.
2. OMG Roofing Products: omgroofing.com.
3. Petersen Aluminum.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Field Fabricated Parapet Copings and Fascia:

1. Berwald Roofing and Sheet Metal; 2440 Charles Street, North St. Paul, MN 55109; Phone: (651) 777-7411.
2. John A. Dalsin & Son; 2830 S. 20th Avenue, Minneapolis, MN 55407; Phone (612) 729-9334.
3. MG McGrath Architectural Surfaces; 1387 Cope Avenue E, Maplewood, MN 55109; Phone: (651) 704-0300.
4. Substitutions: See Section 01 60 00 - Product Requirements..

C. Control and Expansion Joint Covers:

1. GAF: www.gaf.com/#sle.
2. Johns Manville Corporation: www.jm.com/#sle.
3. MM Systems Corp: www.mmsystemscorp.com/#sle.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 COMPONENTS

A. Copings: Factory or field fabricated to sizes required; mitered, welded corners; concealed fasteners.

1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness and finish as cap; concealed stainless steel fasteners.
   a. Copings Profile: As indicated on Drawings.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 RE-3 to positive and negative design wind pressure as defined by applicable code.
3. Material: Formed aluminum sheet, 0.050 inch thick, minimum.
4. Finish: 70 percent polyvinylidene fluoride.
5. Color: As selected by Architect from manufacturer's standard and custom colors.
6. Manufacturers:
   a. OMG Roofing Products; Continuous Cleat Coping: www.omgroofing.com.
   b. Architectural Products Company Product; AP Snap-Tight Coping.
   c. Petersen Aluminum; PAC-CLAD Product; PAC-Continuous Cleat Coping.
   d. Substitutions: See Section 01 60 00 - Product Requirements..
7. Available Fabricators:

a. Berwald Roofing and Sheet Metal; 2440 Charles Street, North St. Paul, MN 55109; Phone: (651) 777-7411.
b. John A. Dalsin & Son; 2830 S. 20th Avenue, Minneapolis, MN 55407; Phone (612) 729-9334.
c. MG McGrath Architectural Surfaces; 1387 Cope Avenue E, Maplewood, MN 55109; Phone: (651) 704-0300.
d. Substitutions: See Section 01 60 00 - Product Requirements..

B. Control and Expansion Joint Covers: Composite construction of 2 inch wide flexible PVC membrane flashing of white color each edge seamed to aluminum sheet metal flanges, designed for nominal joint width of 1 inch. Include special formed corners, tees, intersections, and wall flashings, each sealed watertight.

C. Pipe and Penetration Flashing: Base of rounded aluminum, compatible with PVC membrane roof systems, and capable of accomodating pipes sized between 0.375 inches and 12 inches.

1. Caps: Color anodized.
2. Color: As selected by Architect from manufacturer's standard colors.
3. Manufacturers:
   a. Menzies Metal Products: www.menzies-metal.com/#sle.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

D. Roof Penetration Sealing Systems: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

1. Manufacturers:
   a. Menzies Metal Products: www.menzies-metal.com/#sle.
   b. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES

A. Sealant for Joints in Linear Components: As recommended by component manufacturer.

B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.

C. Roof Cement: ASTM D4586, Type I.

2.04 FINISHES

A. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.

3.02 INSTALLATION

A. Install components in accordance with manufacturer's instructions.

B. Seal joints within components when required by component manufacturer.

C. Anchor components securely.

D. Coordinate installation of components of this section with installation of roofing membrane and base flashings.

E. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

F. Coordinate installation of flashing flanges into reglets .

END OF SECTION

SECTION 07 92 00
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants 2018 (Reapproved 2022).

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications 2022.

C. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems 2023.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016.

E. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants 2018.

F. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints 2019 (Reapproved 2020).

G. SCAQMD 1168 - Adhesive and Sealant Applications 1989, with Amendment (2022).

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the Work with other sections referencing this Section.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.

1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
2. List of backing materials approved for use with the specific product.
3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
4. Substrates the product should not be used on.
5. Substrates for which use of primer is required.
6. Substrates for which laboratory adhesion and/or compatibility testing is required.
7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.

8. Sample product warranty.
9. Certification by manufacturer indicating that product complies with specification requirements.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

G. Preinstallation Field Adhesion Test Plan: Submit at least two weeks prior to start of installation.

H. Field Quality Control Plan: Submit at least two weeks prior to start of installation.

I. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

J. Field Quality Control Log: Submit filled out log for each length or instance of sealant installed, within 10 days after completion of inspections/tests; include bagged test samples and photographic records, if any.

K. Manufacturer's qualification statement.

L. Installer's qualification statement.

1.06 QUALITY ASSURANCE

A. Maintain one copy of each referenced document covering installation requirements on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and with at least five years of documented experience and approved by manufacturer.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

E. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.

1. Adhesion Testing: In accordance with ASTM C794.
2. Compatibility Testing: In accordance with ASTM C1087.
3. Allow sufficient time for testing to avoid delaying the work.

4. Deliver to manufacturer sufficient samples for testing.
5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

F. Preinstallation Field Adhesion Test Plan: Include destructive field adhesion testing of one sample of each combination of sealant type and substrate, except interior acrylic latex sealants, and include the following for each tested sample.

1. Identification of testing agency.
2. Name(s) of sealant manufacturers' field representatives who will be observing
3. Preinstallation Field Adhesion Test Log Form: Include the following data fields, with known information filled out.
    a. Substrate; if more than one type of substrate is involved in a single joint, provide two entries on form, for testing each sealant substrate side separately.
    b. Test date.
    c. Location on project.
    d. Sealant used.
    e. Stated movement capability of sealant.
    f. Test method used.
    g. Date of installation of field sample to be tested.
    h. Date of test.
    i. Copy of test method documents.
    j. Age of sealant upon date of testing.
    k. Test results, modeled after the sample form in the test method document.
    l. Indicate use of photographic record of test.

G. Field Quality Control Plan:

1. Visual inspection of entire length of sealant joints.
2. Non-destructive field adhesion testing of sealant joints, except interior acrylic latex sealants.
    a. Test the entire length of every sealant joint.
3. Field testing agency's qualifications.
4. Field Quality Control Log Form: Show same data fields as on Preinstallation Field Adhesion Test Log, with known information filled out and lines for multiple tests per sealant/substrate combinations; include visual inspection and specified field testing; allow for possibility that more tests than minimum specified may be necessary.

H. Field Adhesion Test Procedures:

1. Allow sealants to fully cure as recommended by manufacturer before testing.
2. Have a copy of the test method document available during tests.
3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
4. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.

I. Non-Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Continuous Method.

1. Record results on Field Quality Control Log.
2. Repair failed portions of joints.

J. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or other applicable method as recommended by manufacturer.

1.07 MOCK-UP

A. Provide mock-up of sealant joints in conjunction with window and wall under provisions of Market & Johnson's Section 01 40 00 - Quality Assurance.

B. Construct mock-up with specified sealant types and with other components noted.

C. Locate where directed by Architect.

D. Mock-up may remain as part of the Work.

1.08 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.09 WARRANTY

A. See Section 01 70 00 - Execution and Closeout Requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

B. Colors: As selected by the Architect from the manufacturer's full range of available colors..

2.02 JOINT SEALANTS

A. Type 1 - General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25. Uses M, A, and O; single component.

1. Products:
   a. BASF Construction Chemicals Building Systems; MasterSeal NP 1.
   b. Tremco; Dymonic 100.
   c. Tremco; Dymonic FC.
   d. Tremco; Vulkem 116.
   e. Substitutions: See Section 01 60 00 - Product Requirements.
2. Color: As selected by Architect from manufacturer's standard range.
3. Applications:

a. Exterior joints between concrete and other materials.
b. Other exterior joints for which no other sealant is indicated.

B. Type 2 - General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25. Uses M, G and A; multicomponent:

1. Products:
   a. BASF Construction-Building Systems; MasterSeal NP 2.
   b. Tremco; Dymeric 240.
   c. Tremco; Dymeric 240 FC.
   d. Substitutions: See Section 01 60 00 - Product Requirements.
2. Color: As selected by Architect from manufacturer's standard range.
3. Applications:
   a. Exterior joints between concrete and other materials.
   b. Other exterior joints for which no other sealant is indicated.

2.03 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
2. Open Cell: 40 to 50 percent larger in diameter than joint width.
3. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
4. Manufacturers:
   a. ADFAST Corporation; ADSEAL BR-2600 (Backer Rod): www.adfastcorp.com/#sle.
   b. Nomaco, Inc; Sof Rod: www.nomaco.com/#sle.
   c. Tremco; Tremco Backer Rod..
   d. Substitutions: See Section 01 60 00 - Product Requirements.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

D. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.

1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
2. Notify Architect of date and time that tests will be performed, at least seven days in advance.
3. Arrange for sealant manufacturer's technical representative to be present during tests.
4. Record each test on Preinstallation Adhesion Test Log as indicated.
5. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Architect.
6. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in Part 1 under Quality Assurance article.

B. Non-Destructive Adhesion Testing: If there are any failures in first 100 linear feet, notify Architect immediately.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.05 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION