CATTARAUGUS COUNTY
Roof Replacement at
Little Valley County Center and Jail
303 Court Street
Little Valley, New York 14755

Prepared by:

Cattaraugus County
Department of Public Works

8810 Route 242
Little Valley, NY 14755

General Provisions and Bid Proposal Booklet

Bid No: 49

May 2017

CATTARAUGUS COUNTY DEPARMENT OF PUBLIC WORKS

Instructions to Bidders,

Specifications and Related Documents

For

Roof Replacement at
Little Valley County Center and Jail
303 Court Street
Little Valley, New York 14755

Cattaraugus County Department of Public Works

8810 Route 242

Little Valley, New York 14755

Tel. (716) 938-9121

Fax (716) 938-2754

CATTARAUGUS COUNTY
DEPARTMENT OF PUBLIC WORKS

Development – Progress – Workmanship

Joseph T. Pillittere
Commissioner

Ryan J. Ferguson
Deputy Commissioner

Mark C. Burr, P.E.
Director of Engineering

Jack Ellis Drive
8810 Route 242
Little Valley, New York 14755
Phone (716) 938-9121
FAX (716) 938-2753

ADVERTISEMENT FOR BIDS

Sealed bids for the **Roof Replacement at Little Valley County Center and Jail**, according to specifications, will be received by the undersigned, at the Department of Public Works Facility, 8810 Route 242, Little Valley, New York, until **Thursday, May 25, 2017 at 1:45 P.M.** after which they will be publicly opened at **2:00 P.M.** (at the ***same location***), by the undersigned, under the direction of the Public Works Committee of the Cattaraugus County Legislature. Each bid, at the time it is received, will be stamped showing date and time of receipt. All bids must be sealed and clearly marked as follows: (Any bid not clearly marked will not be considered.)

Roof Replacement at Little Valley County Center and Jail – comprised of the following bid(s).

DPW BID #49 - General Contract – Little Valley County Center and Jail

There will be a Pre-Bid meeting, **Monday, May 15, 2017, 10:00 A.M.** in the Large Committee Room on the Third Floor, at the Little Valley County Center, 303 Court Street, Little Valley, NY 14755

Final Request for Information shall be 4:00 P.M. **Friday, May 19, 2017.** Final addendum shall be issued **Monday, May 22, 2017** at 2:00 P.M.

Copies of the proposed Contract Documents, Plans, Specifications and Instructions to Bidders will be available **Monday, May 1, 2017**, and may be secured at Cattaraugus County Department of Public Works, 8810 Route 242, Little Valley, New York 14755. Phone Dawn Smith at 938-9121, ext. 2465**.** There will be a **$50.00** charge for each set of specifications, plus **$8.00** postage if mailed. Checks are to be made payable to the Cattaraugus County Treasurer. All questions and RFI's to be directed to Wendel; 375 Essjay Road, Williamsville, NY 14221 @ 716-688-0766 Attn: Jennifer Hill, jhill@wendelcompanies.com. The specifications for this project will be available for examination at the office of Southern Tier Builders Association, 65 West Main St., Falconer, NY 14733, & on their web site, (STBA website at: www.stba.com) Login Page: http://login.onlineplanservice.com/SP/code.aspx Password: **NYBX17-01593-LV49**

Cattaraugus County Local Law 12-2012 as amended by Local Law 5-2015 requires that the County provide a copy of the Cattaraugus County Vendor Responsibility Form to the low bidder. The low bidder will have 5 business days to return the completed form unless the form was mailed by the county to the vendor, in which case they will have 10 business days from the date of the mailing to return the form. Failure by the low bidder to submit the form within the above time frame will lead to the automatic rejection of their bid. The contractor

must also ensure that all subcontractors to be used on the project complete this form and submit it to the County for approval within 5 days of the preconstruction meeting. Failure to do so may lead to the rejection of the subcontractor at the County's discretion.

Currently the Commissioner of Public Works has approved the CCA-2 (New York State Vendor Responsibility Questionnaire For-Profit Construction) with attachments A, B, and C to serve as the Cattaraugus County Vendor Responsibility Form.

The full deposit, according to General Municipal Law, Less any postage costs, will be refunded for complete sets with no missing pages, returned in good condition (NOT MARKED IN OR WRITTEN IN) within 30 days of the award of contract. No refunds will be made for sets returned later than 30 days of the award of contract.

All bids must be sent or delivered to Cattaraugus County Department of Public Works, 8810 Route 242, Little Valley, NY 14755. Attention: Dawn Smith.

All bids must be accompanied by a NON-COLLUSIVE BIDDING CERTIFICATE and Bid Bond in the amount of 5% of bid total. All substitutions are to be submitted at time of bid as per the contract documents. No substitutions will be considered after the bid date. Any bid submitted without such certification and bid bond will not be accepted. Any bid not meeting ALL specifications will not be considered. Cattaraugus County reserves the right to reject any or all bids, to waive any informalities, and to accept the lowest responsible bid.

John Searles
County Administrator
County Center - 303 Court Street
Little Valley, New York 14755

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**** To be completed by the <u>Apparent Low Bidder</u>.**

BID FORMS OMITTED FROM

SPECIFICATION BOOKS

TO OBTAIN BID FORMS PLEASE CONTACT

DAWN SMITH AT 716-938-9121 EXT. 2465

OR SEND EMAIL REQUEST TO:

dasmith@cattco.org

BID BOND

Sec. 38 – Highway law

KNOW ALL MEN BY THESE PRESENTS, That .....

(Name of Contractor)

.....

(Address)

(hereinafter called the "Principal") and the .....

a corporation created and existing under the laws of the State of ..... , having its principal office in the City of …….. (hereinafter called the "Surety"), are held and firmly bound unto Cattaraugus County (hereinafter called the "County") in the full just sum of Five Percent (5%) of Attached Bid, good and lawful money of the United States of America, for the payment of which said sum of money, well and truly to be made and done, the said Principal binds themselves (himself/herself, itself), their (his/hers, its) heirs, executors and administrators, successors and assigns, and the said Surety binds itself, its successors and assigns jointly and severally, firmly by these presents:

Signed, sealed and dated this 20 ..... A.D.

WHEREAS, the said Principal has submitted to the Cattaraugus County Commissioner of Public Works, a bid for

(Description of Project)

.....

AND

WHEREAS, under the terms of the Laws of the State of New York as above indicated, the said Principal has filed or intends to file this bond to guarantee that the Principal will execute all required contract proposal documents and furnish such faithful performance or other bonds as may be required by law in accordance with the terms of the Principal's said proposal.

NOW, THEREFORE, the condition of the foregoing obligation is such, that if the said Principal shall promptly execute and submit, and the Commissioner of Public Works shall accept, all required contract proposal documents including such faithful performance bond or other bonds as may be required by law in accordance with the terms of the Principal's said proposal, then this obligation shall be null and void, otherwise to remain in full force and virtue.

IN TESTIMONY WHEREOF, the said Principal has hereunto set his/her (their, its) hand and seal and the said Surety has caused this instrument to be signed by its……...…….……President and its ……Secretary, and its corporate seal to be hereunto affixed, the day and year first above written.

Signed, sealed and delivered in the presence of:

(Corporate seal of Principal if a corporation) ..... (L.S.)

..... (L.S.)

..... (L.S.)

Principal

(Corporate seal of Surety Co.)

.....Company

of .....

By .....

(Title of Officer)

Attest.....

(Title of Officer)

(Acknowledgment by principal, unless it is a corporation)

STATE OF NEW YORK

SS:

COUNTY OF ……

On this …….. day of …… 20….., before me personally came ……., to me known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same.

.....
Notary Public County

(Acknowledgment by principal, if a corporation)
STATE OF NEW YORK

SS:

COUNTY OF ……

On this …….. Day of …… 20……, before me personally came ……., to me known who being by me duly sworn, did depose and say that he/she resides in ……..; that he/she is the …… of the ……; the corporation described in and which executed the foregoing instrument; that he/she knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he/she signed his/her name thereto by like order.

.....
Notary Public County

(Acknowledgment by Surety Company)
STATE OF NEW YORK

SS:

COUNTY OF ……

On this …….. day of ……..…….. 20……., before me personally came ……..……..., to me known, who being by me duly sworn, did depose and say that he/she resides in ……; that he/she is the …… of the ……..; the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that he/she signed his/her name there to by like order.

.....

Notary Public County

BIDDER INFORMATION SHEET

NAME OF BIDDER: * _____

ADDRESS: _____

PHONE NUMBER: _____

TYPE OF ENTITY: CORPORATION _____ PARTNERSHIP _____ INDIVIDUAL __

IF A NON-PUBLICLY OWNED CORPORATION:

NAME OF CORPORATION: _____

LIST OF PRINCIPAL STOCKHOLDERS (HOLDING OVER 5% OF OUTSTANDING SHARES):

_____

_____

LIST OF OFFICERS: _____

_____

LIST OF DIRECTORS: _____

_____

DATE OF ORGANIZATION: _____

IF A PARTNERSHIP:

PARTNERS: _____

_____

NAME OF PARTNERSHIP: _____

DATE OF ORGANIZATION: _____

- IF THE BUSINESS IS CONDUCTED UNDER AN ASSUMED NAME, A COPY OF THE CERTIFICATE REQUIRED TO BE FILED UNDER THE NEW YORK GENERAL BUSINESS LAW MUST BE ATTACHED.

NON-COLLUSIVE BIDDING CERTIFICATION

REQUIRED BY SECTION 103-D OF GEN. MUNICIPAL LAW

Section 103-d, GML, "Statement of non-collusion in bids and proposals to political subdivision of the state."

Every bid or proposal hereafter made to a political subdivision of the state or any public department, agency or official thereof where competitive bidding is required by statute, rule, regulation or local law, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury: Non-collusive bidding certification.

"(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition."

(b) A bid shall not be considered for award nor shall any award be made where (a)(1)(2) and (3) above have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a)(1)(2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his/her designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one (a).

2.* Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

* So in original, No subd. 1 has been designated.

NON-COLLUSIVE BIDDING CERTIFICATION

BY EXECUTING THIS DOCUMENT, THE CONTRACTOR AGREES TO:

1. Perform all work listed in accordance with the Contract Documents at the lump sum price.

2. All the terms and conditions of the non-collusive bidding certifications required by Section 103-d of the General Municipal Law;

3. Certification of Specialty Items category selected, if contained in this proposal;

4. Certification of any other clauses required by this proposal and contained herein.

_____ Date: _____
(Legal Name of Person, Corporation, or Firm Which is Submitting Bid or Proposal)

BY: _____
(Signature of Person Representing Above)

AS: _____
(Official Title of Signator in Above Firm)

(Acknowledgment by Individual Contractor, If a Corporation)

STATE OF NEW YORK)
) SS:
COUNTY OF)

On this _____ day of _____, 20___, before me personally came _____, to me known and known to me to be the person who executed the above instrument, who being duly sworn by me, did depose and say that he/she resides at _____, and that he/she is the _____ of the corporation described in and which executed the above instrument, and that he/she signed his/her name thereto on behalf of said Corporation by order of the Board of Directors of said Corporation.

_____
Notary Public

(Acknowledgment by Co-Partnership Contractor)

STATE OF NEW YORK)
) SS:
COUNTY OF)

On this _____ day of _____, 20___, before me personally came _____, to me known and known to me to be the person described in and who executed the above instrument, who, being duly sworn by me, did for himself/herself depose and say that he/she is a member of the firm of _____, consisting of himself/herself and _____, and that he/she executed the foregoing instrument in the firm name of _____ and that he/she had authority to sign same, and did duly acknowledge to me that he/she executed same as the act and deed of said firm of _____ for the uses and purposes mentioned herein.

_____
Notary Public

(Acknowledgment by Individual Contractor)

STATE OF NEW YORK)
) SS:
COUNTY OF)

On this _____ day of _____, 20___, before me personally came _____, to me known and known to me to be described in and who executed the foregoing instrument, and that he/she acknowledged that he/she executed the same.

_____
Notary Public

NON-COLLUSIVE BIDDING CERTIFICATION BIDDER INFORMATION

Bidder to provide information listed below:

Bidder Address: _____
Street or P.O. Box No.

_____
City

_____
State Zip

Federal Identification No.: _____

Name of Contact Person: _____

Phone # of Contact Person: _____

If Bidder is a Corporation:

President's Name & Address:

_____

Secretary's Name & Address:

_____

Treasurer's Name & Address:

_____

If Bidder is a Partnership:

Partner's Name & Address:

_____

Partner's Name & Address:

_____

If Bidder is a Sole Proprietorship:

Owner's Name & Address:

_____

REPORTING VIOLATIONS OF NON-COLLUSIVE BIDDING PROCEDURES, MISCONDUCT, OR OTHER PROHIBITED CONTRACT ACTIVITIES

NEW YORK STATE INSPECTOR GENERAL HOTLINE. Reports of New York State Governmental Misconduct may be made in strict confidence to the New York State Inspector General on the Toll Free Statewide HOTLINE or by writing to the Office of the Inspector General. The Toll Free Statewide HOTLINE telephone number is 1-800-367-4448 and calls will be answered between 9:00 A.M. and 5:00 P.M., Monday thru Friday. The address of the Office of the State Inspector General is the State Capitol, Executive Chamber, Albany, New York 12224.

REFERENCE SHEET

All bidders are required to complete this form providing three references of past performance. References should involve projects and/or service situations of similar size, scope, and character of work to this Bid. References must have had dealings with the Bidder within the last thirty-six (36) months. The County reserves the right to contact any or all of the references supplied for an evaluation of past performance in order to establish the responsibility of the Bidder before the actual award of the Bid and/or Contract. Completion of the Reference Form is required.

BIDDER'S NAME: _____

DATE FILED: _____

REFERENCE'S NAME: _____

ADDRESS: _____

TELEPHONE: _____ CONTACT PERSON: _____

REFERENCE'S NAME: _____

ADDRESS: _____

TELEPHONE: _____ CONTACT PERSON: _____

REFERENCE'S NAME: _____

ADDRESS: _____

TELEPHONE: _____ CONTACT PERSON: _____

LOCAL LAW NUMBER 12- 2012 AMENDED BY LOCAL LAW NUMBER 5- 2015
COUNTY OF CATTARAUGUS, NEW YORK

Pursuant to Section 10 of the Municipal Home Rule Law and Section 103 of the General Municipal Law.

A LOCAL LAW ESTABLISHING UNIFORM GUIDELINES FOR DETERMINING THE RESPONSIBILITY OF BIDDERS

BE IT ENACTED by the Legislature of the County of Cattaraugus ("the County"), as follows:

Section 1. Legislative Intent. It is the intent of this Local Law to enhance the County's ability to identify the lowest "responsible bidder" on public works construction projects by instituting more comprehensive submission requirements and an evaluation system which is in compliance with New York State General Municipal Law. The County, based upon its experience, has determined that quality workmanship, efficient operation, safety, and timely completion of projects are not necessarily assured by awarding a public works contract solely on the basis of the low price. This Local Law establishing uniformity of guidelines for determining the responsibility of apparent low bidders will assure efficient use of taxpayer dollars, will promote public safety, and is in the public interest.

Section 2. Applicability. This Local Law shall apply to construction projects subject to the competitive bidding requirements of General Municipal Law §103 and advertised for bids on or after the effective date.

Section 3. Public Works. For purposes of this Local Law, the term "public works" shall mean the following: any constructing, altering, reconstructing, repairing, rehabilitating, refinishing, refurbishing, remodeling, remediating, renovating, custom fabricating, maintenance, landscaping, improving, moving, wrecking, painting, decorating, demolishing, and adding to or subtracting from any public building, structure, highway, roadway, street, alley, bridge, sewer, drain, ditch, sewage disposal plant, water work, parking facility, railroad, excavation, or other project, development, real property, or improvement, or to any part thereof, whether or not the performance of the work herein described involves the addition to, or fabrication into, any structure, project or development, real property or improvement herein described of any material or article of merchandise, which is paid for out of public funds in an amount exceeding the threshold for bidding established by the General Municipal Law. The term also includes any public works leased by the County under a lease containing an option to purchase exceeding the threshold for bidding public works projects established by the General Municipal Law.

Section 4. Cattaraugus County Vendor Responsibility Form and Procedure.

A. A questionnaire (which shall be titled the "Cattaraugus County Vendor Responsibility Form"), hereinafter "the Form", shall be prepared and, as he/she may deem

appropriate, revised by the Cattaraugus County Commissioner of Public Works ("Commissioner").

B. The Commissioner shall provide the Form to the apparent low bidder on all County public works projects.

C. The County shall promptly notify the apparent low bidder of its status as such and provide such entity with a copy of the Form either in electronic or paper format. The most current version of the Form shall also be posted on the Cattaraugus County website.

D. The apparent low bidder shall file the Form in in the Office of the Commissioner not more than five (5) business days after receiving it or, if the form is mailed to the apparent low bidder, within ten (10) business days after the date of mailing.

E. In the event that the apparent low bidder fails to file the fully completed Form in the Commissioner's Office within the required time, its bid will be rejected and any bid bond submitted may, at the County's sole discretion, be forfeited.

F. If the apparent low bidder is deemed not responsible, or fails to submit the Form within the required time, then the next lowest bidder will be deemed the apparent low bidder and so on until the lowest bidder is deemed responsible and selected as the lowest responsible bidder.

G. Not later than five (5) calendar days prior to a final determination that the apparent low bidder is not responsible, the County will notify the bidder of same, in writing, and by certified mail, return receipt, stating the reasons. Except in the case of the rejection of an apparent low bid solely because the vendor failed to timely submit a completed Form, such notice shall set forth a time, date and place for the apparent low bidder to appear and be heard, not less than five (5) business days after such notice is served.

H. Subcontractors proposed to be used on a project must also complete and submit the Form within five (5) days after the preconstruction meeting before the subcontractor is approved by the County. Failure by a subcontractor to submit the Form or unsatisfactory responses to questions may lead to rejection of the bid of the subcontractor at the County's discretion.

I. If the bid of the apparent low bidder appears disproportionately low when compared with estimates obtained by or on behalf of the County and/or compared to other bids submitted (10% or greater disparity), the County reserves the right to inquire further of the apparent low bidder to determine whether the bid contains mathematical errors, omissions and/or erroneous assumptions, and whether the apparent low bidder has the capability to perform and complete the contract for the bid amount.

J. If a bidder is found to have willfully violated New York Labor Law §220 within the previous five (5) years, that bidder shall automatically be deemed "not responsible" and its bid shall be rejected unless the Commissioner, subject to review by the Public Works Committee of the Cattaraugus County Legislature, determines otherwise. In all other cases, based on all of the information collected pursuant to this local law and any other factor deemed relevant, the Commissioner, or other department heads soliciting public works bids, shall determine if the apparent lowest bidder is in fact "responsible."

Section 5. Additional Requirements.

A. Contractors and all subcontractors shall classify their workers as employees rather than as independent contractors, unless those workers meet the definition of "independent contractor" as defined by the Internal Revenue Service, and shall treat said employees accordingly for purposes of workers' compensation insurance coverage, unemployment insurance, employment taxes, and social security taxes.
B. The contractors and all subcontractors shall submit certified payrolls to the Commissioner.

Section 6. Procedure. Cattaraugus County will make its own determinations of responsibility for low bidders. A bidder recognized by the state as a responsible vendor must still satisfy the requirements of this local law by submitting the required Cattaraugus County Vendor Responsibility Form within the required time frame.

Section 7. Incomplete Submissions by Bidders and Subcontractors. It is the sole responsibility of the contractor to comply with all submission requirements to the County. The submission requirements also apply to all subcontractors, except that the contractor shall submit all subcontractor questionnaires to the County of Cattaraugus for approval. Failure to submit the Form may lead to the rejection of the bid of the subcontractor at the County's discretion. Contractor submissions deemed non-responsive will result in automatic rejection of the bid.

Section 8. Materiality. The requirements of this Local Law are a material part of the bid documents and the contract and the successful bidder shall insert this Local Law in all subcontracts.

Section 9. Severability. If any clause, sentence, paragraph, subdivision, section or part of this Local law or the application thereof, to any person, individual, corporation, firm, partnership, entity or circumstance, shall be adjudged by any court of competent jurisdiction to be invalid or unconstitutional such order of Judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section or part of this Local law or in its application to the person, individual, corporation, firm, partnership, entity, or circumstance directly involved In the controversy in which such judgment or order shall be rendered.

Section 10. Other Local Laws. Any prior Local Law or portion thereof in conflict with this Local Law is hereby repealed.

Section 11. Effective Date. This Local Law shall take effect upon filing in the Office of the Secretary of State, in accordance with Section 27 of the New York State Municipal Home Rule Law.

LEGAL STATUS INFORMATION

To facilitate correct drawing and execution of contract, proposer shall supply full information concerning legal status:

FIRM NAME:

PRINCIPAL OFFICE:

Street _____

City, State, Zip _____

Area Code _____ Telephone _____

LOCAL OFFICE:

Street _____

City, State, Zip _____

Area Code _____ Telephone _____

CONTRACT TO BE SENT TO: Principal Office:_____ Local Office:_____

CHECK ONE: Corporation _____ Partnership _____ Individual

(Incorporated under the Laws of the State of _____)

(If foreign corporation, state if authorized to do business in the State of New York:
Yes _____ No _____ Not Applicable _____)

TRADE NAME: _____

NAMES AND ADDRESSES OF PARTNERS:

_____ _____

_____ _____

_____ _____

NAME, TITLE, AND ADDRESS OF PERSON AUTHORIZED TO SIGN CONTRACT ON BEHALF OF PROPOSER:

Name: _____

Title: _____

Address:_____

PLEASE TYPE OR PRINT

BID FOR PERFORMANCE OF CONTRACT WITH CATTARAUGUS COUNTY LEGISLATURE LITTLE VALLEY, NEW YORK

TO: Cattaraugus County Legislature, Little Valley, New York, herein after called the County.

The undersigned, desiring to interpose a bid to provide services for *Bid No. 49 – Little Valley County Center and Jail,* in Little Valley, New York, does hereby accept all terms, conditions, and agreements contained and set forth in the Notice to Bidders, Instructions to Bidders, Minimum Specifications, Non-Collusive Bidding Certification, Legal Status Information and Bid for Performance of Contract with Cattaraugus County Legislature and does hereby certify, agree and propose as follows:

The undersigned declares that he/she has examined all of the attached documents, and hereby proposes and agrees that, if this bid is accepted, he/she will contract with the County, such contract incorporating the provisions of the documents attached hereto, to furnish all the materials and services and do all the work specified in the attached documents in the manner and time herein specified and according to the requirements as herein set forth, and to take in full payment therefore the bid prices set forth on the preceding specification sheets.

If this proposal is accepted by the County and the undersigned fails to contract as aforesaid, within ten days (not including Sunday) from the date of notice from the County to him/her, then the County may at its option, determine that the bidder has abandoned his/her right to enter into the contract and thereupon the bid and acceptance shall be null and void.

The full name and residences of all persons and parties interested in the foregoing bid as principals are as follows: (Individuals or partnership bids only)

_____

_____

_____

INDIVIDUAL, PARTNERSHIP OR CORPORATE USE

The undersigned certifies, under penalty of perjury, that he/she is fully authorized to sign this bid.

Name and Address of Bidder:

_____

_____

_____

Authorized Signature and Title:

_____
Signature

_____
Title

_____
Date

"Iran Divestment Act of 2012" "Iranian Energy Sector Divestment"

Pursuant to State Finance Law § 165-a, the Commissioner of General Services is required to develop a list of persons it determines engage in investment activities in Iran, which is defined as provision of goods, services or credit of $20,000,000 or more, relating to the energy sector.

General Municipal Law § 103-g(4) states as follows:

> Every bid or proposal hereafter made to a political subdivision of the state or any public department, agency or official thereof where competitive bidding is required by statute, rule, regulation or local law, for work or service performed or to be performed or good sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under penalties of perjury:

The below signed bidder affirms the following as true under penalties of perjury:

a. "By submission of this bid, the bidder identified herein and each person signing on behalf of the bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that this bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the state finance law."

Corporate or Company Name

By: _____
Signature

_____
Title

Sworn to before me this

____Day of _____, 20____

_____
Notary Public

This AGREEMENT made as of the ____ day of _____ in the year 20___ by and between the County of Cattaraugus, a municipal corporation hereinafter called the "County" and _____ hereinafter called the "Contractor".

WITNESSETH that the County and Contractor in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK. The Contractor will perform all Work as shown in the Contract Documents for the completion of the Project generally described as the ***Roof Replacement at Little Valley County Center and Jail,*** Cattaraugus County, New York.

(a) The Contractor shall furnish all of the materials and do all the Work required for the replacement of the structure and all other incidental work detailed in the contract documents.

Article 2. ENGINEER. The Project has been designed by Cattaraugus County. Cattaraugus County will hire an Engineer to represent the County in connection with implementation of the Project and is hereinafter called the ENGINEER. The County and the ENGINEER will provide all on-site observation services, and County observation personnel will also be referred to as the ENGINEER.

Article 3. CONTRACT TIME. Time of beginning, rate of progress and time of completion are essential conditions of the Contract. The Contractor shall commence work within ten (10) days of the effective date of the Contract, unless written consent is given by the County to begin at a later date. All work shall be completed on or before **September 30, 2017**.

Article 4. CONTRACT PRICE. The County shall pay the Contractor for the performance of the Work in accordance with the Lump Sum Bid indicated in the bid documents.

Article 5. PAYMENTS. The County shall make payments on the account of the Contract as follows:

(a) Upon request from the Contractor, the Engineer and the County will review and approve statements prepared by the Contractor for the total quantity of work properly completed by the Contractor as of a specified date noted on the statement. No such statement, however, will be reviewed by the Engineer and County within one month after the start of Work under contract, or at intervals of less than one month. The County will pay the Contractor 95% of the amount of each statement, less prior payments, forty-five (45) days after approval of the statement. Neither statement nor payment shall mean that any Work is accepted. The statements should be based on the percent complete of each subtask noted in the Lump Sum schedule.

(b) The 5% of the value of completed Work withheld from the Contractor will be paid to the Contractor by the County upon: (1) the completion of all Work to the satisfaction of the Engineer and the County; and (2) the Contractor has filed with the County a certification of payment of all labor and materials and certificate of release of liens in connection with this agreement.

(c) The acceptance by the Contractor of the final payment of amounts withheld from the Engineer's statements shall be and shall operate as a release to the County and the Engineer of all claims and of all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the County and Engineer and others relating to or arising out of this Work.

(d) The County reserves the right, at any time, to modify or change the Plans or Specifications as deemed necessary and the Agreement shall not be invalidated thereby however;

(e) If the Contractor considers that he/she is being required to perform extra work for which
no Change Order has been issued, then he/she shall serve Written Notice upon the County prior to such extra work is performed. On failure to serve this Notice, all rights of the Contractor to be paid therefore shall be forfeited.

Article 6. CONTRACT DOCUMENTS. The Contract Documents which comprise the Contract between the Owner and the Contractor are attached hereto and made a part hereof and consist of the following:

(a) The General Provisions and Proposal Booklet titled **"Roof Replacement at Little Valley County Center and Jail, Little Valley, New York 14755"**

(b) Drawings and Plans

(c) Any Modifications, including Addenda, duly delivered before the execution of this Agreement, and Change Orders incorporated after the Agreement is signed.

(d) Bonds and Insurance instruments.

Article 7. MISCELLANEOUS.

(a) Terms used in this Agreement shall have the same meanings which are defined in this bid package.

(b) The Contractor shall furnish a faithful performance surety bond on a form approved by the County in an amount equal to 100 percent of the Contract Price, and shall have as a surety thereon a surety company or companies authorized to do business in New York State. He/She likewise will furnish a Labor and Material Bond to guarantee the payment of all labor and materials supplied in connection with this Agreement.

(c) Neither the County nor the Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents and,

(d) Specifically, the Contractor shall not assign any monies due or to become due without the prior written consent of the County.

(e) The County and the Contractor each binds himself/herself, his/her partners, successors, assigns and legal representatives to the other party hereto in respect of all covenants, agreements and obligations contained in the Contract Documents.

(f) The Contract Documents constitute the entire agreement between the County and the Contractor and may only be altered, amended or repealed by a duly executed written instrument.

Article 8. CONTRACTOR REPRESENTATIONS. The Contractor is experienced in the use and interpretation of plans and specifications such as those included in these Contract Documents. He/She has carefully reviewed these and all of the Contract Documents and has found them free of ambiguity and sufficient for bid purposes. He/She has based his/her bid solely on these documents not relying on any explanation or interpretation, oral or written, from any other source.

Article 9. CONTRACT PROVISIONS. The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the County of Cattaraugus, whether a contractor, licensor, licensee, lessor, lessee or any other party). In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Article, the terms of this Article shall control.

(a) Non-Assignment Clause

In accordance with Section 109 of the General Municipal Law, this contract may not be assigned by the Contractor, or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the previous consent, in writing, of the County and any attempts to assign the contract without the County's written consent are null and void.

(b) Workers' Compensation Benefits

In accordance with Section 108 of the General Municipal Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

(c) Non-Discrimination Requirements

In accordance with Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or

marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, national origin, age, sex or disability (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of $50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all monies due hereunder for a second or subsequent violation.

(d) Wage and Hours Provisions

If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statute, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

(e) Non-Collusive Bidding Requirement

In accordance with Section 103-d of the General Municipal Law, if this contract was awarded based upon the submission of bids, Contractor warrants, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further warrants that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the County a non-collusive bidding certification on Contractor's behalf.

(f) Set-Off Rights

The County shall have all of its common law and statutory rights of set-off. These rights shall include, but not be limited to, the County's option to withhold for the purposes of set-off any monies due to the Contractor under this contract up to any amounts due and owing to the County with regard to this contract.

(g) Record-Keeping Requirement

The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract for a period of six (6) years following final payment or the termination of

this contract, whichever is later, and any extensions thereto. The County Treasurer or County Administrator or any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to such books, records, documents, accounts and other evidential material during the contract term, extensions thereof and said such (6) year period thereafter for the purposes of inspection, auditing and copying. "Termination of this contract", shall mean the later of completion of the work of the contract or the end date of the term stated in the contract.

(h) Governing Law

This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

(i) No Arbitration and Service of Process

Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized) but must, instead, be heard in a court of competent jurisdiction of the State of New York. Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested.

(j) Approval by County Legislature

This contract is subject to, and conditioned upon, approval by the Cattaraugus County Legislature.

(k) Postponement, Suspension, Abandonment or Termination of Contract

The County shall have the right to postpone, suspend, abandon or terminate this contract, and such actions shall in no event be deemed a breach of contract. In the event of any termination, postponement, delay, suspension or abandonment, the Contractor shall deliver to the County all data, reports, plans, or other documentation related to the performance of this contract, including but not limited to guarantees, warranties, as-built plans and shop drawings. In any of these events, the County shall make settlement with the Contractor upon an equitable basis as determined by the County which shall fix the value of the work which was performed by the Contractor prior to the postponement, suspension, abandonment or termination of this contract. This clause shall not apply to this contract if the contract contains other provisions applicable to postponement, suspension or termination of the contract.

(l) Indemnification

The Contractor shall defend, indemnify, and save harmless against Cattaraugus County, its officers, employees, and the Engineer from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations or workmanship of such Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act of omission, neglect, or misconduct of the Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or

copyright; or from any claims on amounts arising or recovered under the Workers' Compensation Law, or any other law, ordinance, order, or decree; and so much of the money due the Contractor under and by virtue of his Contract as shall be considered necessary by the County for such purpose, may be retained for the use of the County; or, in case no money is due, his/her surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the County; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he/she is adequately protected by public liability and property damage insurance.

The Contractor agrees to make no claim for damages for delay in the performance of this contract occasioned by any act or omission to act of the County or the Engineer or any of its representatives, and the Contractor agrees that any such claim shall be fully compensated for by an extension of time to complete the performance of work as provided herein. This indemnification shall include all costs and disbursements incurred by the County and the Engineer in defending any suit, including attorneys fees.

(m) Conflict of Interest

(1) The Contractor warrants that to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the County.

(2) An organizational conflict of interest exists when the nature of the work to be performed under this contract may, without some restriction on future activities, either result in an unfair competitive advantage to the Contractor or impair the Contractor's objectivity in performing the work for the County.

(3) The Contractor agrees that if an actual or potential organizational conflict of interest is discovered after award, the Contractor will make a full disclosure in writing to the County. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the County, to avoid, mitigate, or minimize the actual or potential conflict.

(4) The County may terminate this contract in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award, or discovered an actual or potential conflict after award and did not disclose or misrepresented relevant information to the County, then the County may terminate the contract, or pursue such other remedies as may be permitted by law or this contract. The terms of Clause (k) of this Section or other applicable contract provision regarding termination shall apply to termination by the County pursuant to this clause.

(5) The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform to the language of this clause.

(n) Requests for Payment

All requests for payment by the Contractor must be submitted on forms supplied and approved by the County. Each payment request must contain such items of information and supporting documentation as required by the County, and shall be all inclusive for the period of time covered by the payment request.

(o) Performance of Work Required

The Contractor agrees that during the performance of the work required pursuant to this Agreement, the Contractor and all officers, employees, agents or representatives working under the Contractor's direction shall strictly comply with all local, state or federal laws, ordinances, rules or regulations controlling or limiting in any way the performance of the work required by this Agreement. Furthermore, each and every provision of law required to be inserted in this Agreement shall be deemed so inserted, and the Agreement shall be read and enforced as if such provisions were so inserted.

The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform substantially to the language of this clause, including this paragraph.

(p) Independent Contractor Status

It is understood that the Contractor is an independent Contractor and shall not be considered an agent of the County nor shall any of the Contractor's employees or agents be considered sub-agents for the County. The final contract will be between the County and the Contractor and is not intended and shall not be construed to create the relationship of agent, servant, employee, partnership, joint venture, or association between County and Contractor. The employees and agents of one party are not the employees or agents of the other party for any purpose whatsoever. The Contractor understands and agrees that all persons performing work pursuant to the final contract are for purposes of workers' compensation liability, solely employees of the Contractor and not employees of the County. The Contractor shall be solely liable and responsible for furnishing any and all workers' compensation benefits to any person as a result of any injuries arising from or connected with any work performed by or on behalf of the Contractor hereunder. The employees and agents of each party shall while on the premises of the other party, comply with all rules and regulations of the premises including, but not limited to security requirements. The Contractor agrees to comply with the non discrimination employment policies as required by applicable state and federal laws and regulations regarding employment discrimination. The Contractor assures the County that in accordance with applicable law it does not, and agrees that it will not, discriminate in any manner on the basis of age, color, creed, national origin, race, religious belief, sexual preference, or handicap.

(q) No-Waiver

In the event that the terms and conditions of the Agreement are not strictly enforced by the County, such non-enforcement shall not act as or be deemed to act as a waiver or modification of this Agreement, nor shall such non-enforcement prevent the County from enforcing each and every term of this Agreement thereafter.

(r) Severability

If any provision of this Agreement is held invalid by a court of law, the remainder of this Agreement shall not be affected thereby if such remainder would then continue to conform to the laws of the State of New York.

(s) Liquidated Damages

The contractor shall be assessed a penalty of $300 per day and any additional inspection and engineering costs for work not complete within the specified time frame.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT the day and year first above written.

Attest _____

_____ By: _____
County

Attest _____

_____ By: _____
Contractor

ACKNOWLEDGMENT OF COUNTY

STATE OF NEW YORK)SS
COUNTY OF CATTARAUGUS)

On this ___ day of _____ 20____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

ACKNOWLEDGMENT OF CONTRACTOR (OUTSIDE NEW YORK STATE)

STATE OF _____)SS:
COUNTY OF_____)

On this _____ day of _____ 20____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____ _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument and that such individual made such appearance before the undersigned in the City/Town of _____ in State of _____.

(SEAL) _____
Notary Public

ACKNOWLEDGMENT OF CONTRACTOR (WITHIN NEW YORK STATE)

STATE OF NEW YORK)SS:
COUNTY OF _____)

On this _____ day of _____ 20____, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(SEAL) _____
Notary Public

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PART 1 BIDDING REQUIREMENTS AND CONDITIONS

1.1 NOTICE TO BIDDERS (ADVERTISEMENT)

Sealed bids for the Roof Replacement Project at the Little Valley County Center and Jail, 303 Court Street, Little Valley, New York, will be received under the direction of the County Administrator at the Cattaraugus County Department of Public Works Facility, 8810 Route 242, Little Valley, New York until **May 25, 2017 at 1:45 p.m.** after which they will be publicly opened at **2:00 p.m.** (at the same location), under the direction of the Public Works Committee of the Cattaraugus County Legislature. Each bid, at the time received, will be stamped by a clock showing date and time of receipt.

Copies of the Contract Plans and Documents may be examined at no expense at the following location:

Cattaraugus County Department of Public Works
8810 Route 242
Little Valley, New York 14755
(716) 938-9121

Copies of the Contract Plans and Documents may be purchased only at the Cattaraugus County Department of Public Works. The purchase price for each set of Contract Plans and Documents is fifty dollars ($50.00). All checks for purchase of Contract Plans and Documents shall be made payable to "Cattaraugus County Treasurer". The full deposit, according to General Municipal Law, Less any postage costs, will be refunded for complete sets with no missing pages, returned in good condition (NOT MARKED OR WRITTEN IN) within 30 days of the award of contract. No refunds will be made for sets returned later than 30 days of the award of contract.

Questions regarding the contract documents for this project may be directed to Jennifer Hill, Wendel WD Architecture, Engineering, Surveying and Landscape Architecture, P.C. at (716) 688-0766 or jhill@wendelcompanies.com.

All bids must be written in ink on the forms provided. The bid must be accompanied by a certified check, cashier's check, or bid bond made payable to "Treasurer, Cattaraugus County", in the amount of 5% of the bid, as a guarantee that if the Contract is awarded to the bidder, he/she will sign the Contract and furnish a satisfactory performance bond. If a bidder should fail to sign the Contract and deliver the performance bond within ten (10) calendar days after he/she has received the Contract, then he/she shall forfeit the proposal guaranty.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage), Public Law 627, the minimum wages paid laborers and mechanics are included in wage schedules that are set out in the bid proposal.

Cattaraugus County Local Law 12-2012 as amended by Local Law 5-2015 requires that the County provide a copy of the Cattaraugus County Vendor Responsibility Form to the low bidder. The low bidder will have 5 business days to return the completed form unless the form was mailed by the county to the vendor, in which case they will have 10 business days from the date of the mailing to return the form. Failure by the low bidder to submit the form within the above time frame will lead to the automatic rejection of their bid. The contractor must also ensure that all subcontractors to be used on the project complete this form and submit it to the County for approval within 5 days of the preconstruction construction meeting. Failure to do so may lead to the rejection of the subcontractor at the County's discretion.

Currently the Commissioner of Public Works has approved the CCA-2 (New York State Vendor Responsibility Questionnaire for-Profit Construction) with attachments A, B and C to serve as the Cattaraugus County Vendor Responsibility Form.

The County of Cattaraugus reserves the right to reject any or all bids, to waive any informality in any bids, and to award the Contract in the County's best interest. The County reserves the right to make the award within forty-five (45) calendar days after the date of the bid opening during which period bids shall not be withdrawn.

1.2 PREQUALIFICATION OF BIDDERS

The County reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the County that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

1.3 PROPOSAL GUARANTY

Proposals shall be accompanied by a proposal guaranty in the form of a certified check, cashier's check, or bid bond in the amount of five percent (5%) of the total amount bid. It shall be made payable to "Treasurer, Cattaraugus County".

1.4 DELIVERY OF PROPOSALS

Each proposal must be submitted in a sealed envelope clearly marked to indicate its contents. Sealed proposals must be delivered to the Cattaraugus County Commissioner of Public Works at or before the date, time and location specified herein. No responsibility shall be attached to the Commissioner of Public Works or his representatives for the premature opening of any proposal not properly labeled. Bidders assume all responsibilities and risks associated with mail or courier delivery. When sent by mail, the sealed proposal must be addressed to the County at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the "Notice to Bidders". Proposals received after the time for opening of bids will be returned to the bidder unopened.

1.5 NOTICE OF SPECIAL CONDITIONS

The contractor's attention is particularly called to those parts of the contract documents and specifications which deal with the following:

A. Insurance requirements - Item 6.4
B. Prevailing wage rates required by N.Y.S. Labor Law – Section E
C. New York State Building Code Permit Requirements

1.6 DISQUALIFICATION OF BIDDERS

Any one or more of the following may be considered as sufficient cause for the disqualification of a bidder and the rejection of his/her proposal.

(a) More than one proposal for the same work from an individual, firm or corporation under the same or different names.

(b) Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work with the County until any such participant shall have been reinstated as a qualified bidder.

(c) Lack of competency and adequate machinery, plant and other equipment, as revealed by the financial statements and experience questionnaire.

(d) Unsatisfactory performance record as shown by past work for any owner judged from the standpoint of workmanship and progress.

(e) Uncompleted work which, in the judgment of the County, might hinder or prevent the prompt completion of this work if awarded.

(f) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force at the time of letting.

(g) Violation of New York Labor Law §220 within the previous five (5) years.

(h) Failure to submit form CCA-2 (New York State Vendor Responsibility Questionnaire For-Profit Construction) with attachments A, B, and C or substantive omissions on the submitted form and attachments.

(i) Failure to comply with any qualification regulations of the County.

PART 2 AWARD AND EXECUTION OF CONTRACT

2.1 CONSIDERATION OF PROPOSALS

In accordance with General Municipal Law, after the proposals are opened and read, they will be compared on the basis the current gross summary in a manner hereafter described for which the work will be performed according to the plans and specifications together with the unit price for each of the separate items as called for. The lowest bid shall be determined by the County on the basis of the gross lump sum for which the entire work will be performed, arrived at by a correct computation of all items specified in the proposal therefore at the unit prices stated in the proposal (if any). If a conflict arises within the bid proposal, then the words will be used for the final tabulation.

The right is reserved to reject any or all proposals, to waive technicalities, to advertise for new proposals, or to proceed to do the work otherwise, if in the judgment of the Commissioner the best interests of the County will be promoted thereby.

2.2 CANCELLATION OF AWARD

The County reserves the right to cancel the award of any Contract at any time before the execution of the Contract by all parties without any liability against the County.

2.3 RETURN OF PROPOSAL GUARANTY

All proposal guaranties, except those of the three lowest bidders, will be returned immediately following the opening and checking of the proposals. That of the successful bidder will be returned after a satisfactory bond has been furnished and the Contract has been executed. The remaining two guaranties will be returned within ten (10) calendar days following the award of the Contract.

2.4 BONDS

The successful bidder shall at the time of the execution of the Contract, furnish a performance bond and a payment bond each in an amount equal to the full amount of the Contract. The purpose of such bonds is to assure the faithful performance of this Contract as well as the payment of all persons performing labor and furnishing materials in connection with this Contract. The form of the bonds and the security shall be acceptable to the County.

Negotiable securities, satisfactory to the County, in an amount equal to that specified for the Contract bond, may be deposited with the County in lieu of such Contract bond and shall be subject to all the conditions of such bond and to such agreements as may be required by the County.

2.5 FAILURE TO EXECUTE CONTRACT

Failure of the Contractor to execute the Agreement and file acceptable performance and payment bonds within ten (10) calendar days from the date of the ***Notice of Award*** (see form on Page D-18) after he/she has received the Contract form shall be just cause for the annulment of the award, and for the forfeiture of the proposal guaranty. The proposal guaranty shall become the property of the County, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder or the work may be re-advertised and constructed under a new Contract or otherwise as the County may decide.

PART 3 SCOPE OF WORK

3.1 RESPONSIBILITY OF THE CONTRACTOR

The Contractor will be held responsible for the execution of a satisfactory and complete piece of work, in accordance with the true intent of the drawings and specifications. He/She shall provide, without extra charge, all incidental items required as a part of his work including layout and survey, even though not particularly specified or indicated. If he/she has good reason for objecting to the use of any material, appliance, or method of construction as shown or specified, then he/she shall report such objections to the Engineer, and if approved by the Engineer, shall obtain proper adjustment before the Contract is made, and then shall proceed with the work with the understanding that a satisfactory job will be required. The Contractor is solely responsible for site safety and adherence to OSHA regulations.

General scope of work includes the following:

- Removal of existing roofing system
- New Built-Up Fluid Applied Roofing System
- Skylights

PART 4 CONTROL OF WORK

4.1 AUTHORITY OF ENGINEER

The Commissioner of Public Works will be represented by the Engineer who will observe the work done under the Contract on a part time basis throughout construction.

The Engineer shall inspect work performed, review materials to be used, and stop and reject work and materials found to be not in accordance with the plans and specifications. His/Her authority shall cover all phases of the work. In the event that questions should arise concerning the interpretation or changes of plans and specifications or to the acceptability of the work, the Contractor shall submit his/her questions, in writing, to the Engineer. These questions shall be forwarded to the Commissioner of Public Works along with the Engineer's recommendations.

The Engineer may place on the job other personnel who shall observe the work as his/her direct representatives. Their authority shall consist of observing the work under the Contract, rejecting any defective material used and temporarily suspending any work improperly performed. They will not have any authority to make changes or alterations in the plans and specifications, nor be permitted to act as foremen for the Contractor.

Any work done or materials used without scheduling suitable observation by the Engineer or his/her authorized representative as noted may be ordered removed and replaced at the Contractor's expense.

4.2 SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE OF WORK

When in the opinion of the Engineer the Contractor has substantially completed the project or a specified area of a project so that the County can occupy or utilize the project for the use it was intended, the Engineer shall recommend to the Commissioner of Public Works to issue a Certificate of Substantial Completion (See form on page D-20).

When in the opinion of the Engineer the Contractor has fully performed the work under the Contract, the Engineer shall recommend to the Commissioner of Public Works the acceptance of the work so completed. If the Commissioner of Public Works accepts the recommendation of the Engineer, then he/she shall notify the Contractor by letter of such acceptance, and copies of such acceptance shall be sent to other interested parties.

4.3 GENERAL GUARANTY:

Neither the final certificate of payment nor any provision in the contract documents nor partial or entire occupancy of the premises by the County shall constitute acceptance of work not done in accordance with the contract documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

The Contractor shall remedy any defects in the work and pay for any damage to other work resulting there from, which shall appear within a period of two (2) years from the date of substantial completion. The County will give notice of observed defects with reasonable promptness.

4.4 CONTRACTOR'S PERSONNEL

The Contractor shall place in charge of the work a competent and person with the ability to communicate effectively in English Superintendent, who shall have the authority to act for the Contractor and who shall be acceptable to the Engineer. This Superintendent must be present at all times during the working day to receive directions and orders given by the Engineer or his/her representatives. All workers must have sufficient skill and experience to properly perform the work assigned to them. Any person employed by the Contractor who the Engineer may deem incompetent or unfit to perform the work shall at once be discharged and shall not again be employed on projects for the County at that specific task.

4.5 COOPERATION WITH UTILITIES

It shall be the Contractor's duty to notify all utility companies or other parties affected within a time frame as not to affect the schedule prior to all necessary adjustment of the public or private utility fixtures and other appurtenances within or adjacent to the limits of construction. The Contractor shall notify the Engineer in writing describing the need for, and extent of, utility adjustments and the anticipated schedule.

It is understood and agreed upon that the Contractor has considered in his/her bid all of the permanent and temporary utility appurtenances in their present or relocated positions as shown on the plans and that no additional compensation will be allowed for any delays, inconveniences, or damage sustained by him due to any interference from the utility appurtenances or the operation of moving them by the utility owners. The Contractor will be responsible for any fees required by the utility owners for temporary locations.

PART 5 CONTROL OF MATERIALS

5.1 CERTIFICATE OF ACCEPTABILITY

All certificates of acceptability of materials required by the specifications shall be supplied by the Contractor at no expense to the County. The Engineer shall have the right to approve of the laboratories or fabricators that will issue the certificates.

The cost of the inspection by the Engineer of any plants not approved by the County shall be borne by the Contractor. This shall include, but not be limited to, plants employed to provide mobile concrete and steel reinforcement.

PART 6 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

6.1 SUBCONTRACTORS, MATERIALMEN AND LABORERS

The Contractor shall furnish the Engineer, before final payment is authorized; an affidavit that all labor and material associated with the work in any way is paid for in full. The Contractor shall indemnify and hold the County and the Engineer harmless from any lien or claim which may be made or filed after such payment by any subcontractor, material man or laborer in connection with work performed hereunder.

6.2 RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor shall indemnify and save harmless Cattaraugus County, its officers, employees and the Engineer, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations or workmanship of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of the Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims on amounts arising or recovered under the Workers' Compensation Law, or any other law, ordinance, order, or decree; and so much of the money due the Contractor under and by virtue of his/her Contract as shall be considered necessary by the County for such purpose, may be retained for the use of the County; or, in case no money is due, his/her surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the County; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he/she is adequately protected by public liability and property damage insurance.

The Contractor agrees to make no claim for damages for delay in the performance of this contract occasioned by any act or omission to act of the County or the Engineer, or any of its representatives, and the Contractor agrees that any such claim shall be fully compensated for by an extension of time to complete the performance of work as provided herein.

6.3 NO WAIVER OF LEGAL RIGHTS

The County shall not be precluded or stopped by a measurement, estimate or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that any such measurement, from recovering from the Contractor or his/her sureties, or both, such damage as it may sustain by reason of his/her failure to comply with the terms of the Contract. Neither the acceptance by the County, or any representative of the County, nor any extension of time, nor any possession taken by the County shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

6.4 INSURANCE

The Contractor shall procure and maintain at its own expense and without expense to the County, until final acceptance by the County, of the work covered by the contract, insurance for liability for damages imposed by law, of the kinds and in the amounts hereinafter provided, with insurance companies authorized to do such business in the County covering all operations under the contract whether performed by it or its subcontractors. Within ten (10) days of the Notice to Award and prior to the commencement of any work the Contractor shall furnish to the Cattaraugus County Human Resources a certificate or certificates of insurance in form satisfactory to the Cattaraugus County Human Resources Personnel Officer showing that it has complied with this Section, which certificate or certificates shall provide that the policies shall not be changed or canceled until thirty (30) days written notice has been given to the Cattaraugus County Human Resources Department. Failure to supply a satisfactory certificate with ten (10) days after the Notice of Award may result in the cancellation of award and for the forfeiture of the Contractor's bid security, at the sole discretion of the County. The types of insurance are as follows:

A. Workers' Compensation Insurance. A policy covering the obligations of the Contractor in accordance with the provisions of the Workers' Compensation Law, covering all operations under the contract, whether performed by it or its subcontractor and also under the Disability Benefits Law. The contract, shall be void and of no effect unless the person or corporation making or executing same shall secure compensation and disability benefits coverage for the benefit of, and keep insured during the life of the contract, such employees in compliance with the provisions of the Workers' Compensation Law.

B. Liability and Property Damage Insurance. Policies following the 1986 Insurance Services Office formats shall be provided. Unless otherwise specifically required by special provision, each policy shall not be amended or contain deductible clauses or coverage exclusions of any nature and shall have limits not less than shown on the sample Certificate of Liability Insurance (Column A – Construction & Maintenance) on page D-14.

   For all damages arising during the policy period, shall be furnished in the types (al.) through (e.) as described below. An umbrella type policy, dedicated to this contract, may be used to meet these limits.

   a1. Contractor's Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work performed by him under the agreement;

   a2. Contractor's Liability Insurance issued to and covering the liability for damages imposed by law upon EACH SUBCONTRACTOR with respect to all work performed by said subcontractor under the agreement;

   b. Contractor's Protective Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor with respect to all work under the agreement performed for the Contractor by subcontractors;

   c. Completed Operations' Liability Insurance issued to and covering the liability for damages imposed by law upon the Contractor and each subcontractor arising between the date of final cessation of the work and the date of final acceptance thereof, out of that part of the work performed by each;

d. Protective Liability Insurance issued to and covering the liability for damages imposed by law upon Cattaraugus County and the Commissioner of Public Works and all employees of the County both officially and personally, any municipality in which the work is being performed, and/or any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work or any consultant inspecting engineer or inspector working for or on the project, and their agents or employees,, with respect to all operations under the agreement by the Contractor or its subcontractors, including omissions and supervisory acts of the State, municipality, public benefit corporation or consultant. Specifically, this includes, but is not necessarily limited to the parties listed below.

Failure to list a firm, organization or municipality, etc. does not eliminate the requirement to provide such coverage.

If the Contractor elects to use the same policy for more than one project, then it must provide with the insurance certificate the Aggregate Limits of Insurance (per project) Endorsement indicating the specific project site and contract number;

e. Commercial General Liability (Premises, Existence, Hazard) Liability Insurance (formerly called Owner's, Landlord's and Tenant's Liability Insurance) issued to and covering the liability for damages imposed by law upon Cattaraugus County and the Commissioner of Public Works and all employees of the County both officially and personally, any municipality in which the work is being performed, and/or any public benefit corporation, railroad, or public utility whose property or facilities are affected by the work or any consultant inspecting engineer or inspector working for or on the project, and their agents or employees, with respect to temporarily opening any portion of the County construction project under this agreement, until the construction or reconstruction pursuant to the agreement has been accepted by the County. Specifically, this includes, but is not necessarily limited to the parties listed on page D-14 (Column A – Construction & Maintenance).

Failure to list a firm, organization or municipality, etc. does not eliminate the requirement to provide such coverage. This coverage will not be required for contracts involving only turf establishment, landscaping, or traffic signals, which do not involve work on the roadway.

C. Automobile Liability and Property Damage Insurance. A policy covering the use in connection with the work covered by the Contract Documents of all owned, non-owned and hired vehicles bearing, or, under the circumstances under which they are being used, required by the Motor Vehicle Laws of the State of New York to bear license plates."

List of Additional Insured Parties

County of Cattaraugus, 303 Court Street, Little Valley, NY 14755

6.5 LITIGATION

In the event any litigation shall arise from this contract, the laws of the State of New York shall control any litigation, regardless of which party shall institute such action.

APPENDIX "A"

COUNTY OF CATTARAUGUS STANDARD INSURANCE REQUIREMENTS

The insurance companies providing these coverages acknowledge that the Named Insured is entering into a contract with the County of Cattaraugus in which the Named Insured agrees to defend, hold harmless, and indemnify the County, its officials, employees, and agents against all claims resulting from work performed, material handled, and services rendered. In some circumstances it will be necessary to require alternate coverage and limits which will be defined in the bid specifications, contract, lease or agreement. The alternate coverage and limits should be evidenced on the certificate in lieu of the standards printed below.

Minimum Coverage Limits are as Follows:

	A Construction & Maintenance	Aa Low Risk Construction & Maintenance	C Professional	D Property Leased to Others or Use of Facilities	F Livery	G All Purpose Public Entity, Concessionaire	Ga Low Risk All Purpose Public Entity
* ** COMMERCIAL GENERAL LIABILITY	$2,000,000 Agg. $1,000,000 Occ.	$1,000,000 Agg. $ 500,000 Occ.	$2,000,000 Agg. $1,000,000 Occ.	$2,000,000 Agg. $1,000,000 Occ.	$2,000,000 Agg. $1,000,000 Occ.	$2,000,000 Agg. $1,000,000 Occ.	$1,000,000 Agg. $ 500,000 Occ.
Prem. - Ops.	Include	Include	Include	Include	Include	Include	Include
Prods. - Compl. Ops.	Include	Include	Include	Include	Include	Include	Include
Indep. Contractor	Include	Include	Include	Include	Include	Include	Include
Contractual	Include	Include	Include	Include	Include	Include	Include
BF Property Damage	Include	Include		Include			
X,C,U	Include	Include					
Personal Injury	Include	Include	Include	Include	Include	Include	Include
Liquor Law				Include			
Host Liquor				Include			
** AUTO LIABILITY	$1,000,000 CSL	$1,000,000 CSL	$1,000,000 CSL	$1,000,000 CSL	$1,000,000 CSL	$1,000,000 CSL	$1,000,000 CSL
Owned	Include	Include	Include	Include	Include	Include	Include
Hired	Include	Include	Include	Include	Include	Include	Include
Non-Owned	Include	Include	Include	Include	Include	Include	Include
* ** EXCESS LIABILITY	$3,000,000	$1,000,000	$1,000,000	$1,000,000	$3,000,000	$1,000,000	
WORKERS' COMP. DISABILITY	Per attached information sheet	Per attached information sheet	Per attached information sheet	Per attached information sheet	Per attached information sheet	Per attached information sheet	Per attached information sheet
EMPLOYER'S LIABILITY	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
*** PROFESSIONAL LIAB.			$3,000,000 Agg. $1,000,000 Occ.				

* The Comprehensive/Commercial General Liability limits can be met by one or more policies, or in combination with an Excess and/or Umbrella Liability policy.
The COI must indicate if the coverage trigger in an 'Occurrence' form or a 'Claims-made' form.
All 'Claims-made' policies shall continue to provide evidence of coverage three (3) years after completion of work or product delivery.

** Cattaraugus County MUST be named as Additional Insured for all acts of Named Insured pursuant to this contract.

*** Professional Liability policies are not required to have the County as Additional Insured

Each policy, as allowed by law, shall be endorsed stating that the contractor's insurers agree to waive any rights of subrogation against the County of Cattaraugus because of payments for any injury or damages arising out of work performed under this contract.

PART 7 PROSECUTION AND PROGRESS

7.1 NOTICE TO PROCEED

The "Notice to Proceed" (see form on page D-19) will stipulate the date on which it is expected the Contractor will begin the work. Commencement of work by the Contractor shall be deemed and taken as a waiver of this notice on his part. In no case, however, shall the Contractor begin work prior to the date of the signing of the Contract.

7.2 PROSECUTION OF WORK

The Contractor shall start construction operations on the part of the project approved by the Engineer, or set forth in the approved Progress Schedule. The work shall be conducted in such manner and with sufficient materials, equipment, and labor as are considered necessary to insure its completion in accordance with the plans and specifications as interpreted by the Engineer, by the date set forth in the Agreement. Should the prosecution of the work for any reason be discontinued, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

7.3 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to suspend the work wholly or in part by written order for such period as he/she may deem necessary due to unsuitable weather, to conditions considered unfavorable for the suitable prosecution of the work, or to carry out orders given or to perform any provisions of the Contract.

7.4 DATE OF COMPLETION OF CONTRACT WORK

The Contractor shall perform fully, entirely, and in a satisfactory and acceptable manner the work contracted, by the date stipulated in the Agreement.

In adjusting the Agreement date for the completion of the project, all strikes, lock-outs, unusual delays in transportation, or any condition over which the Contractor has no control, and also any suspensions ordered by the Engineer for causes not the fault of the Contractor, shall be excluded from the computation of the contract time for completion of the work. No allowance will be made for delays or suspensions of the prosecution of the work due to the fault of the Contractor.

7.5 TERMINATION OF CONTRACT

If the Contractor is adjudged bankrupt or makes an assignment for the benefit of creditors or a receiver is appointed for the Contractor or any insolvency arrangement proceedings are instituted by or against him, or if the Contractor fails after seven (7) days notice to supply enough properly skilled workers or proper materials or fails to prosecute the work with such diligence as will insure its completion by the Agreement date or shall in any other respect commit a breach of his/her Agreement and fail to remedy the same within seven (7) days after notice thereof, then the County may, by twenty-four (24) hours written notice, terminate the Contractor's right to proceed with the balance of the work or with any portion thereof and may take possession of the work and complete it by Contract or otherwise. The County may utilize such materials, plant and equipment as may be on the site of the work.

7.6 FAILURE TO COMPLETE WORK ON TIME

When the work embraced in the Contract is not completed on or before the date specified therein, engineering and inspection expenses incurred by the County upon the work from the completion date originally fixed in the Agreement to the final date of completion of the work may be charged to the Contractor and be deducted by the County from any payment due the Contractor. Consideration of any extra work or supplemental Contract work added to the original Contract as well as extenuating circumstances beyond the control of the Contractor, will be given due consideration by the County before assessing engineering and inspection charges against the Contractor. The Contractor will be responsible for any delays resulting from causes within the Contractor's control, including inefficient operations, and the Commissioner of Public Works shall be the sole judge of whether such charges shall be assessed against the Contractor.

7.7 ASSIGNMENT

Assignment of the contract shall be in accordance with Section 109 of the General Municipal Law as follows:

§109. Assignment of public contracts

1. A clause shall be inserted in all specifications or contracts hereafter made or awarded by any officer, board or agency of a political subdivision, or of any district therein, prohibiting any contractor, to whom any contract shall be let, granted or awarded, as required by law, from assigning, transferring, conveying, subletting or otherwise disposing of the same, or of his/her right, title, or interest therein, or his/her power to execute such contract, to any other person or corporation without the previous consent in writing of the officer, board or agency awarding the contract.

2. If any contractor, to whom any contract is let, granted or awarded, as required by law, by any officer, board or agency of a political subdivision, or of any district therein, shall without the previous written consent specified in subdivision one of this section, assign, transfer, convey, sublet or otherwise dispose of such contract, or his/her right, title, or interest therein, or his/her power to execute such contract, to any other person or corporation, the officer, board or agency which let, made, granted or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein, as the case may be, and such officer, board or agency shall be relieved and discharged from any and all liability and obligations growing out of such contract to such contractor, and to the person or corporation to which such contract shall have been assigned, transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his/her assignees, transferees or sublessees shall forfeit and lose all moneys theretofore earned under such contract, except so much as may be required to pay his/her employees. The provisions of this section shall not hinder, prevent, or affect an assignment by any such contractor for the benefit of his/her creditors made pursuant to the laws of this state.

PART 8 MEASUREMENT, PAYMENT, AND RECORD KEEPING

8.1 PAYMENTS ON CONTRACT

Payments to the Contractor for work satisfactorily completed will be made monthly in the amount of 95% of the work completed. No monthly payment will be rendered for less than 10% of the Contract amount or $1,000, whichever is less. The payments will be based on the completed percentage of each unit bid as shown in the Itemized schedule.

The attention of persons intending to make proposals is specifically called to the provisions of Section 70 and 71 of the Lien Law in relation to funds being received by a Contractor for a public improvement. These provisions declare that the funds received by the Contractor shall constitute trust funds in the hands of such Contractor to be applied first to the payment of certain claims.

No certificate approving or authorizing the first partial payment, or in the event taxes shall be found due in accordance with this Section after the first payment to the Contractor, then no certificates approving or authorizing any final payment shall be made to a foreign Contractor unless such Contractor furnishes satisfactory proof that all taxes due by such Contractor under the provisions of Articles 9, 9A, 16, and 16A of the Tax Law have been paid. The certificate of the State Tax Commission to the effect that all such taxes have been paid shall be conclusive proof of the payment of such taxes.

The term "Foreign Contractor" as used in the preceding paragraph means in the case of an individual, a person who is a legal resident of another state or foreign country; and in the case of a firm or co-partnership, one having one or more partners who is a legal resident of another State or foreign country and in the case of a corporation, one having its principal place of business in another State or foreign country.

8.2 DIFFERING SITE CONDITIONS

The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Engineer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

The Engineer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, then an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed above for giving written notice may be extended by the Engineer.

NOTICE OF AWARD

TO: _____
_____
_____

PROJECT Description:

Roof Replacement at the
Little Valley County Center and Jail
303 Court Street
Little Valley, NY 14755

The County has considered the Bid submitted by you for the above-described work in response to its Advertisement for Bid No. _____ opened _____.

You are hereby notified that your Bid has been accepted in the amount of $ _____. You are required by the General Provisions to execute the Agreement and furnish the required Contractor's Performance Bond and Payment Bond within ten (10) calendar days from the date of this Notice of Award.

If you fail to execute such Agreement and to furnish the Bonds within the ten (10) days from the date of this Notice, then the County will be entitled to consider all your rights arising out of Cattaraugus County's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. Cattaraugus County will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to Cattaraugus County.

Dated this _____ day of _____ in the year 2017.

OWNER: Cattaraugus County

BY: _____

TITLE: Commissioner, Department of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by

_____

Dated this _____ day of _____ in the year _____.

By: _____

Title: _____

NOTICE TO PROCEED

DATE:

PROJECT: Roof Replacement at Little Valley County Center and Jail

TO: _____
_____
_____

You are hereby notified to commence work in accordance with the Agreement dated on or before _____. All work shall be completed on or before September 30, 2017 and final payment shall be submitted within 45 calendar days of completion of work.

You are required to return an acknowledged copy of this Notice of Proceed to Cattaraugus County

CATTARAUGUS COUNTY
Owner

By: _____

Title: _____

ACCEPTANCE OF THIS NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by

_____

Dated this _____ day of _____ in the year _____.

By: _____

Title: _____

CERTIFICATE OF SUBSTANTIAL COMPLETION

DATE:

PROJECT: Roof Replacement at Little Valley County Center and Jail

TO: _____

_____

_____

The performed under this contract has been inspected by authorized representatives of the County, Contractor and Engineer and the Project was found to be substantially completed in accordance with the contract documents.

DEFINITION OF SUBSTANTIAL COMPLETION

The date of substantial completion of a project or a specified area of a project is the date when the construction is sufficiently completed, in accordance with the contract documents, as modified by any change orders agreed to by the parties, so that the County can occupy or utilize the project or specified area of the project for the use it was intended.

A tentative list of items to be completed or corrected is attached hereto. This list may not be exhaustive, and the failure to include an item on it does not alter the responsibility of the Contractor to complete all the work in accordance with the contract documents

_____ By _____

Engineer Authorized Representative

Date _____

The Contractor accepts the above Certificate of Substantial Completion and agrees to complete and correct the items on the tentative list with the time indicated.

_____ By _____

Contractor Authorized Representative

Date _____

The County Accepts the project or specified area of the project as substantially complete and will assume full possession of the project or specified are of the project at _____(time), on _____(date).

Cattaraugus County By _____

Authorized Representative

Date _____

SECTION E

DEPARTMENT OF LABOR CONTRACT REQUIREMENTS AND PREVAILING WAGE RATE SCHEDULES

Labor classifications not appearing on the following rate sheets can be used only with the consent of the Commissioner of Public Works and then the rate to be paid will be given by the Commissioner of Public Works after advising with the State Department of Labor.

All requests for minimum wage rates for additional occupations shall be directed through the County.

The bidder shall take into account in his/her bid all changes in wage rates and supplements that may be forthcoming during the time the contract is in force.

The Contractor in the execution of the work under the contract in accordance with the provisions of the specifications and the special provisions to the specifications may submit job orders to and may also request the referral of lists of qualified applicants for the work of the NEW YORK STATE EMPLOYMENT SERVICE.

PREVAILING WAGE SCHEDULE

FOR ARTICLE 8 PUBLIC WORK PROJECT

Location: Cattaraugus County

Project Type: Roof Replacement; The Little Valley County Center and Jail
PRC#: 2017003888

Effective dates of schedule provided by NYS DOL: 2017 to 2018.

A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for this project.

The current schedule(s) of the prevailing rates and prevailing hourly supplements for the project referenced above may be accessed at the New York State Department of Labor website @ http://wpp.labor.state.ny.us/wpp/showFindProject.do?method=showIt. Updated PDF copies of your schedule can be accessed by entering the assigned PRC# at the proper location on the website.

For policy or rate questions call the NYS Department of Labor in Buffalo at (716) 847-7159. If you do not have internet access, you may contact the Cattaraugus County DPW, **Dawn Smith** at (716) 938-2465 to request a copy of the prevailing rate schedule provided for this project.

SECTION F
TECHNICAL SPECIFICATIONS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Work covered by the Contract Documents.
2. Type of Contract.
3. Use of premises.
4. Owner's occupancy requirements.
5. Work restrictions.
6. Specification formats and conventions.

B. Related Sections include the following:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Owner: Cattaraugus County, 303 Court Street, Little Valley, New York 14755.

B. Architect/Engineer: Wendel, 140 John James Audubon Parkway, Suite 201, Amherst, NY 14228.

C. The Work consists of the following:

1. The Work includes removal of existing EPDM roofing system on the County Center and ballasted EDPM roofing system on the Jail building, installation of new roofing system on both buildings, and includes but is not limited to some hazardous materials abatement and other Work indicated in the Contract Documents.

1.4 TYPE OF CONTRACT

A. Project will be constructed under a single lump sum contract using the contract forms presented at the front of this manual.

1.5 WORK SEQUENCE/PHASING

A. Project will be constructed in a manner to accommodate the operations of the existing facility during the construction process. Phase project so roof remains in a watertight condition.

B. Work around the inner Jail courtyard area is to be coordinated with the Owner and the Jail's security officers so no prisoners are present within the courtyard area while work is going on above. Coordinate access to the penthouse exterior door with the Jail's security officers.

1.6 USE OF PREMISES

A. General: The contractor shall have limited use of premises for construction operations as indicated below.

B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Owner Occupancy: Allow for Owner access of Project site and use by the public of adjoining areas.
2. Driveways and Entrances: Keep driveways, parking areas, loading areas and entrances serving premises clear and available to Owner, Owner's employees, emergency vehicles, and the public at all times. Do not use these areas for parking or storage of materials.
    a. Schedule deliveries to minimize use of driveways and entrances.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

D. Use of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughput construction period. Repair damage caused by construction operations.

1.7 OWNER'S OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: The Owner will occupy the site and the existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

A. On-Site Work Hours: May proceed during hours as agreed to by the Owner. General work hours are 8am to 5pm.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner not less than three days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission.

C. Noise, Vibration and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption of Owner occupancy with Owner.

1. Notify Owner not less than two days in advance of proposed disruptive operations.

D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows or outdoor air intakes.

E. Employee Identification: Provide identification tags for Contractor personnel working on project site. Require personnel to use identification tags at all times. Provide a list of personnel who will be working on the project to the Owner.

F. Security: No cameras or cell phones are to be taken onto the Jail roof without prior approval from the Owner.

G. Contact, communication, or exchange of any article with inmates is strictly prohibited at the Jail. Any attempts by inmates to contact or communicate with contractors must be reported immediately to the Owner’s representative.

1.9 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 33-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.10 SUMMARY OF REQUIRED SUBMITTALS

A. The following is a list of submittals arranged in the order of time milestones. The list is not intended to be complete, but to summarize important submittals in one location convenient for reference for all parties, for the purpose of helping ensure the submittals are made at the proper time so as not to impede the progress of the work.

1. Submittals required prior to Notice of Award:
    a. Contractor’s Qualification Statement.
    b. Work to be performed by the bidder with his own forces.
    c. List of subcontractors and other entities proposed to provide portions of the work.
    d. Back-up data for proposed substitutions.
    e. Cost breakdown of the bid.
2. Submittals required prior to Award of Contract:
    a. Performance and Payment Bonds
    b. Insurance Certificates
3. Submittals required prior to Mobilization at the Project Site:
    a. Schedule of Values – Refer to Section 012900.
    b. Preliminary Project Schedule – Refer to Section 013200.
    c. Submittals Schedule – Refer to Section 013200.
    d. Safety Program and name of Safety Coordinator – Refer to General Conditions and Section 011200.
    e. List of principal staff names and assignments – Refer to Section 013100.
4. Submittals required prior to commencement of each portion of the work:
    a. Acceptance of existing conditions and substrates upon which work is to be performed. Include verification that existing mechanical and electrical systems are functioning in each area of work. Refer to Section 017300.
    b. Refer to individual Specification Sections for required shop drawings, product data, samples, test reports, certificates, and other required submittals.
5. Submittals required prior to Substantial Completion and Final Completion: Refer to Section 017700.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternates:

1. Alternate No. 1: County Center building - remove existing EPDM roofing system and provide built-up fluid applied roofing system to lower outer roof level and two mid-level roof areas as show on the plans.

2. Alternate No. 2: Remove existing skylight on existing Jail roof as show on the plans. Provide new skylight and curb at locations as shown on the plans.

END OF SECTION 012300

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710 or other appropriate form.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Proposal Requests, unless otherwise directed.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

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

1.4 SCHEDULE OF VALUES

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

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    a. Application for Payment forms with Continuation Sheets.
    b. Submittals Schedule.
2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of the initial Application for Payment.
3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
4. Provide separate Schedules of Values for different parts of the work, in accordance with funding requirements, as determined after award of contract.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Provide at least one line item for each of the following as applicable. Some of the items below require submittals by the Contractor. Failure to provide such submittals will result in a credit to the Owner for work not performed, based on the values of each item listed.

    a. General Conditions
    b. Daily Construction Reports
    c. Photographic Documentation
    d. Two Week Schedule
    e. Project Schedule Updates
    f. Progress Meeting Attendance
    g. Each Specification Section
    h. Final Cleaning
    i. Operation and Maintenance Manuals

2. Identification: Include the following Project identification on the Schedule of Values:

    a. Project name and location.
    b. Name of Architect.
    c. Architect's project number.
    d. Contractor's name and address.
    e. Date of submittal.

3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

    a. Related Specification Section or Division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value.

        1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100%.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.

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

8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

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

1.5 APPLICATIONS FOR PAYMENT

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

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

B. Payment Application Times: The date for application for each progress payment is the fifteenth day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days before the date for each progress payment.

C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment unless otherwise directed. (Sample located at the end of this section.)

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

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

E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

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

F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit waivers of lien on forms executed in a manner acceptable to Owner.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Contractor's Construction Schedule (preliminary if not final).
3. Products list.
4. Schedule of unit prices.
5. Submittals Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
8. Copies of building permits.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.
13. Performance and payment bonds.
14. Initial settlement survey and damage report if required.

H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Submit Certificate of Substantial Completion.
4. Updated final statement, accounting for final changes to the Contract Sum.
5. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
6. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
7. Evidence that claims have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1. General project coordination procedures.
2. Conservation.
3. Coordination Drawings.
4. RFIs
5. Administrative and supervisory personnel.
6. Project meetings.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation.
3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination: Coordinate construction operations, included in different Sections of the specification, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Installation and removal of temporary facilities and controls.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Preinstallation conferences.
6. Project closeout activities.

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

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 REQUEST FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

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

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.

13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Submit on form at the end of this section.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow **seven** working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
2. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within **10** days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log **bi-weekly**. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within **seven** days if Contractor disagrees with response.

1.5 SUBMITTALS

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

1. Indicate relationship of components shown on separate Shop Drawings.
2. Indicate required installation sequences.

B. Staff Names: Prior to mobilization at the project site, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing.
    d. Designation of responsible personnel.
    e. Procedures for processing field decisions and Change Orders.
    f. Procedures for processing Applications for Payment.
    g. Distribution of the Contract Documents.
    h. Submittal procedures.
    i. Preparation of Record Documents.
    j. Use of the premises.
    k. Responsibility for temporary facilities and controls.
    l. Parking availability.
    m. Office, work, and storage areas.

n. Equipment deliveries and priorities.
o. First aid.
p. Security.
q. Progress cleaning.
r. Working hours.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related Change Orders.
d. Purchases.
e. Deliveries.
f. Submittals.
g. Review of mockups.
h. Possible conflicts.
i. Compatibility problems.
j. Time schedules.
k. Weather limitations.
l. Manufacturer's written recommendations.
m. Warranty requirements.
n. Compatibility of materials.
o. Acceptability of substrates.
p. Temporary facilities and controls.
q. Space and access limitations.
r. Regulations of authorities having jurisdiction.
s. Testing and inspecting requirements.
t. Required performance results.
u. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements.
4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings twice monthly. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Owner and Architect, Contractor and each subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these

meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Change Orders.
        14) Documentation of information for payment requests.
        15) Coordination of work between Contractors.

3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

    a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

REQUEST FOR INFORMATION

Contractor Name

Address: Phone:
City, State, Zip: Fax:

Wendel Project No. 307651

Contractor RFI No.: _____ **DATE:** _____

TITLE: _____ **CONTRACTOR JOB NO:** _____

PROJECT: Little Valley County Center & Jail Roof Replacement **REQUIRED RESPONSE DATE:** _____

TO: Wendel
375 Essjay Road
Williamsville, NY 14221
Phone: 716-688-0766 Fax: 716-625-6825

ATTN: Robin Hodges (rhodges@wendelccompanies.com)

QUESTION:

Requested By: _____ Date: _____

Name

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Submittals Schedule.
3. Daily construction reports.
4. Material location reports.
5. Field condition reports.
6. Special reports.

B. Related Sections include the following:

1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Predecessor activity is an activity that must be completed before a given activity can be started.

B. Event: The starting or ending point of an activity.

C. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

D. Major Area: A story of construction, a separate building, or a similar significant construction element.

E. Milestone: A key or critical point in time for reference or measurement.

1.4 SUBMITTALS

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

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

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

C. Daily Construction Reports: Submit two copies at weekly intervals.

D. Material Location Reports: Submit two copies at weekly intervals.

E. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

F. Special Reports: Submit two copies at time of unusual event.

1.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

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

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

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

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

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame: Extend schedule from date established for commencement to the date of Substantial Completion and Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
4. Startup and Testing Time: Include not less than 3 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Owner’s administrative procedures necessary for certification of Substantial Completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
4. Work Restrictions: Show the effect of the following items on the schedule:

    a. Coordination with existing construction.
    b. Limitations of continued occupancies.
    c. Uninterruptible services.
    d. Use of premises restrictions.
    e. Seasonal variations.

5. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Fabrication.
    e. Deliveries.
    f. Installation.
    g. Tests and inspections.
    h. Adjusting.
    i. Curing.
    j. Placement into final use and operation.

6. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, interim milestones, Substantial Completion, and Final Completion.

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

G. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for commencement of the Work. Base schedule on the dates established for Substantial Completion and Final Completion and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10% increments within time bar.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. High and low temperatures and general weather conditions.
5. Accidents.
6. Meetings and significant decisions.
7. Unusual events (refer to special reports).
8. Stoppages, delays, shortages, and losses.
9. Meter readings and similar recordings.
10. Emergency procedures.
11. Orders and requests of authorities having jurisdiction.
12. Change Orders received and implemented.
13. Supplemental instructions received and implemented.
14. Services connected and disconnected.
15. Equipment or system tests and startups.
16. Partial Completions and occupancies.
17. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information on the form required. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

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

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

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before the next regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

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

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 1 Section "Payment Procedures" for submitting Applications for Payment.
2. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
3. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
4. Division 1 Section "Quality Requirements" for submitting test and inspection reports and for erecting mockups.
5. Division 1 Section "Closeout Procedures" for submitting warranties and Project Record Documents.
6. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

A. Electronic Media Request: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals upon receipt of a signed disclaimer (available from Architect) with specific request and payment of a nominal fee of $50.00 per Drawing.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that requires sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Submit all items required by each specification section in one package. Piecemeal submittals will not be reviewed and will be returned with appropriate action stamp indicating incomplete submittal.
    b. Architect will withhold action on a submittal requiring coordination with submittals required by other sections until related submittals are received.

C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Concurrent Review: Where concurrent review of submittals by Architect's consultants, Owner, or other parties is required, allow 21 days for initial review of each submittal.
3. If intermediate submittal is necessary, process it in same manner as initial submittal.
4. Allow same amount of time as above for processing each resubmittal.
5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

E. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 6 inches (150 by 150-mm)] on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information on label for processing and recording action taken:
    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name and address of Contractor.
    e. Name and address of subcontractor.
    f. Name and address of supplier.
    g. Name of manufacturer.
    h. Number and title of appropriate Specification Section.
    i. Drawing number and detail references, as appropriate.
    j. Other necessary identification.

F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

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

H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a Submittal Transmittal form, located at end of this specification section. Architect will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
3. Transmittal Form: Use sample form at end of Section.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

K. Required Submittals: Refer to individual Specification Sections and elsewhere in the Contract Documents for listing and descriptions of required submittals. The Architect may also request additional submittals to assure compliance with the Contract Documents. Submit these required items only. Submittals not required by the Contract Documents or requested by the Architect will not be reviewed and will be discarded or returned without action.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

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

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Color charts showing full range of available colors.

d. Manufacturer's catalog cuts.
e. Wiring diagrams showing factory-installed wiring.
f. Printed performance curves.
g. Operational range diagrams.
h. Mill reports.
i. Standard product operating and maintenance manuals.
j. Compliance with recognized trade association standards.
k. Compliance with recognized testing agency standards.
l. Application of testing agency labels and seals.
m. Notation of coordination requirements.

4. Number of Copies: Submit five (5) copies of each submittal. The Architect will retain one copy and return the remainder to the Contractor for distribution.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than sheet size used for Contract Document Drawings.
4. Number of Copies: Submit one correctable, translucent, reproducible print and one blue- or black-line print of each submittal. Architect will return the reproducible print.

D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."

E. Samples: Prepare physical units of materials or products, including the following:

1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of

color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:

    a. Generic description of Sample.
    b. Product name or name of manufacturer.
    c. Sample source.

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

    a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
    b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

6. Number of Samples for Initial Selection: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

7. Number of Samples for Verification: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

    a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

8. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

F. Product Schedule or List: Comply with requirements in Division 1 Section “Product Requirements”.

G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."

H. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation".

I. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."

J. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."

K. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."

L. Subcontract List: Comply with requirements in Division 1 Section “Project Management and Coordination”.

2.2 INFORMATIONAL SUBMITTALS

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

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

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

C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

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

E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

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

G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

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

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

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

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

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

M. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Operation and Maintenance Data."

O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

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

Q. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

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

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

S. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

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

1. Architect's Action:

a. Final Unrestricted Release: When the Architect marks a submittal "**No Exceptions Taken**" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.

b. Final-But-Restricted Release: When the Architect marks a submittal "**Provide as Corrected**," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract documents. Final payment depends on that compliance.

c. Returned for Resubmittal: When the Architect marks a submittal "**Revise and Resubmit,**" do not proceed with Work covered by the submittal, including purchasing, fabrication, deliver, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay.

1) Do not use, or allow others to use, submittals marked "**Revise and Resubmit**" at the Project Site or elsewhere where Work is in progress.

d. Returned for Resubmittal: When the Architect marks a submittal "**Rejected**", the Architect has not completed a full review, because it is clear that the submittal does not reflect the requirements of the Contract Documents. Do not proceed with work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal that complies with the Contract Documents.

e. Returned for Resubmittal: When the Architect marks a submittal "**Submit Specified Item**" do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. The product submitted was not specified or previously approved. Shop drawing or product data submittal is not an acceptable method to obtain approval of substitutions. Resubmit specified or previously approved product.

f. Returned for Resubmittal: When the Architect marks a submittal "**Submit Additional Information**", do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Not enough information has been included to make an evaluation, or the data submitted illustrates more than one product or optional features, without identifying what is actually proposed. Revise or prepare a new submittal with all required information complete and clearly indicated.

C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded or returned without action.

END OF SECTION 013300

Submittal No._____

Submittal Transmittal

PROJECT: Little Valley County Center & Jail Roof Replacement WD PROJECT #: **307651**

OWNER: Cattaraugus County A/E: Wendel

CONTRACT # & NAME_____

CONTRACTOR: _____
(NAME, ADDRESS, TELEPHONE & FAX NUMBERS)

☐ NEW SUBMITTAL ☐ RESUBMITTAL Date: _____

This submittal is: ☐ AS SPECIFIED REMARKS:_____

NUMBER OF COPIES SUBMITTED: (8 maximum) _____

TYPE OF SUBMITTAL: ***(CHECK ALL THAT APPLY)***

( ) SHOP DRAWINGS
( ) SAMPLE
( ) COLOR SELECTION
( ) SCHEDULE
( ) WARRANTY
( ) TEST REPORT
( ) PRODUCT DATA/CATALOG CUT
( ) RECORD DOCUMENT
( ) PERFORMANCE DATA
( ) OPERATIONS & MAINTENANCE DATA
( ) OTHER _____

SPEC. SECTION: _____

PARAGRAPH(S): _____

DWG. REF. NO.:_____

CONTRACTOR CERTIFICATION

CONTRACTOR CERTIFIES THAT THE INFORMATION SUBMITTED COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS.

By: _____

Date: _____

NOTE: Contractor shall apply an approval stamp to each copy of each submittal.

DESCRIPTION OF SUBMITTAL:_____

PRODUCT NAME:_____

MANUFACTURER:_____

ADDRESS:_____ TEL. NO.:_____

CONTRACTOR or SUBCONTRACTOR:_____ TEL. NO.:_____

SUPPLIER:_____ TEL. NO.:_____

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:

1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
3. Divisions 2 through 9 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.

C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.4 DELEGATED DESIGN

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

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

1.5 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

C. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Ambient conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

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

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

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

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

F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

G. Preconstruction Testing: Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.

1. Contractor responsibilities include the following:

a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
c. Fabricate and install test assemblies using installers who will perform the same tasks for Project.
d. When testing is complete, remove assemblies; do not reuse materials on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Owner and Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless intent for mockups to become part of completed construction is indicated.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.
2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Special Tests and Inspections: Owner will engage a testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

1. Testing agency will notify Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
2. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Owner and Contractor and to authorities having jurisdiction.

3. Testing agency will submit a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
4. Testing agency will interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
5. Testing agency will retest and reinspect corrected work.

D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
5. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field-curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect or Owner. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

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

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

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

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

D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.

E. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list and other names as officially recognized. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities	
	Available from Access Board	(800) 872-2253
	www.access-board.gov	(202) 272-5434

CFR	Code of Federal Regulations Available from Government Printing Office www.access.gpo.gov/nara/cfr	 (888) 293-6498 (202) 512-1530
CRD	Handbook for Concrete and Cement Available from Army Corps of Engineers Waterways Experiment Station www.wes.army.mil	 (601) 634-2355
DOD	Department of Defense Specifications and Standards Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
	Available from General Services Administration www.fss.gsa.gov/pub/fed-specs.cfm	(202) 619-8925
	Available from National Institute of Building Sciences www.nibs.org	(202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
MILSPEC	Military Specification and Standards Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	 (800) 872-2253 (202) 272-5434

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names,

telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials (The) www.iapmo.org	(909) 595-8449
ICBO	International Conference of Building Officials www.icbo.org	(800) 284-4406 (562) 699-0541
ICC	International Code Council, Inc. (Formerly: CABO - Council of American Building Officials) www.intlcode.org	(703) 931-4533

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list and other names as officially recognized. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-0990
DOC	Department of Commerce www.doc.gov	(202) 482-2000
EPA	Environmental Protection Agency www.epa.gov	(202) 260-2090
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 1 Section "Summary" for limitations on utility interruptions and other work restrictions and infection control guidelines.
2. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
3. Division 1 Section "Execution Requirements" for progress cleaning requirements.
4. Divisions 2 through 9 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.3 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lumber and Plywood: Comply with requirements in Division 6 Section "Miscellaneous Carpentry."

B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide [concrete] [galvanized-steel] bases for supporting posts.

C. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors

D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

E. Paint: Comply with requirements in Division 9 painting Sections.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations. Coordinate with the Owner to use space in the existing site lot.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

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

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

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

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with Owner for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Use of existing toilet room facilities to be at the discretion of the Owner. If acceptable to the Owner, contractor is to clean and maintain facilities in a manner acceptable to the Owner. At Substantial Completion, restore facilities to original condition acceptable to the Owner.

D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

E. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

1. Install electric power service overhead, unless otherwise indicated.
2. Connect temporary service to Owner's existing power source, as directed by Owner.

F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

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

G. Telephone Service: Provide project superintendent with cell phone for use whenever on job site.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

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

B. Parking: Coordinate with the Owner a designated area of existing parking areas for construction personnel.

C. Temporary Signs:

1. Provide temporary, directional signs for construction personnel and visitors.
2. Maintain and touchup signs so they are legible at all times.

D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.

E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

F. Existing Elevator Use: Use of Owner's existing elevators at County Center will ONLY be permitted for Contractors staff to access the roof. All staff will need to go through security at the main entrance.

G. Use of Existing Stairs: Use of existing stairs in the County Center is for construction staff only, provided stairs are protected and finishes restored to new condition at time of Substantial Completion. All staff will need to go through security at the main entrance.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. 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.

1. Comply with work restrictions specified in Division 1 Section "Summary."

C. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

E. Covered Walkway: Erect protective, covered walkway for passage of individuals at all building entrances. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.

1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.

F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

G. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas. Comply with Owner’s rules for designated smoking areas. Smoking is prohibited inside of building.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide fire extinguishers for fire protection.

3.5 OPERATION, TERMINATION, AND REMOVAL

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

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

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

1. Materials and facilities that constitute temporary facilities are property of Contractor.
2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 015000

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general protection of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for temporary site fencing.

1.3 DEFINITIONS

A. Caliper: Diameter of a trunk measured by a diameter tape at a height 6 inches (150 mm) above the ground for trees up to and including 4-inch (100-mm) size at this height and as measured at a height of 12 inches (300 mm) above the ground for trees larger than 4-inch (100-mm) size.

B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

a. Tree-service firm's personnel, and equipment needed to make progress and avoid delays.
b. Arborist's responsibilities.
c. Quality-control program.

d. Coordination of Work and equipment movement with the locations of protection zones.
e. Trenching by hand or with air spade within protection zones.
f. Field quality control.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
2. Detail fabrication and assembly of protection-zone fencing and signage.
3. Indicate extent of trenching by hand or with air spade within protection zones.

C. Samples: For each type of the following:

1. Organic Mulch: 1-pint (0.5-L) volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
2. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
3. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For arborist and tree service firm.

B. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs or video recordings.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

D. Quality-control program.

1.7 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by ISA.

B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

C. Quality-Control Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work without damaging trees and plantings. Include dimensioned diagrams for placement of protection zone fencing and signage, the arborist's and tree-service firm's responsibilities, instructions given to workers on the use and care of protection zones, and enforcement of requirements for protection zones.

1.8 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Moving or parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood, Ground or shredded bark, or Wood and bark chips.
2. Size Range: 3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum.
3. Color: Natural.

C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements: Previously used materials may be used when approved by Architect.

1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and weighing a minimum of 0.4 lb/ft. (0.6 kg/m); remaining flexible from minus 60 to plus 200 deg F (minus 16 to plus 93 deg C); inert to most chemicals and acids; minimum tensile yield strength of 2000 psi (13.8 MPa) and ultimate tensile strength of 2680 psi (18.5 MPa); secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches (2400 mm) apart.

a. Height: 48 inches (1200 mm).
b. Color: High-visibility orange, nonfading.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. Prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Flag each tree trunk at 54 inches (1372 mm) above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.

1. Apply 2-inch (50-mm) uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches (150 mm) of tree trunks.

3.3 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

B. Maintain protection zones free of weeds and trash.

C. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.5 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.

1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.

1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 6 inches (150 mm) or smaller in caliper size.
2. Large Trees: Provide two new tree(s) of 6-inch (150-mm) caliper size for each tree being replaced that measures more than 6 inches (150 mm) in caliper size.

    a. Species: As selected by Architect.

3. Plant and maintain new trees as specified in Section 329300 "Plants."

C. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 2-inch (50-mm) uniform thickness to remain.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:

1. Division 1 Section “Alternates" for products selected under an alternate.
2. Division 1 Section "References" for applicable industry standards for products specified.
3. Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.
4. Divisions 2 through 9 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

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

C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

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

1.4 SUBMITTALS

A. Product List: Submit a list, in tabular from, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
2. Form: Tabulate information for each product under the following column headings:
    a. Specification Section number and title.
    b. Generic name used in the Contract Documents.
    c. Proprietary name, model number, and similar designations.
    d. Manufacturer's name and address.
    e. Supplier's name and address.
    f. Installer's name and address.
    g. Projected delivery date or time span of delivery period.
    h. Identification of items that require early submittal approval for scheduled delivery date.
3. Completed List: Within 30 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
4. Architect's Action: Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.

B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use form provided at end of Section.
2. Documentation: With each substitution request, show compliance with requirements for substitutions and include the following, as applicable:
    a. Statement indicating why specified material or product cannot be provided.

b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, code compliance and specific features and requirements indicated.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
h. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
i. Cost information, including a proposal of change, if any, in the Contract Sum.
j. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
k. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If accepted, Architect will issue a written Addendum prior to bid opening indicating acceptance of the proposed substitution.

a. Use product specified if Architect cannot make a decision on use of a proposed substitution prior to bid opening.
b. If rejected, Architect will notify Contractor through Construction Manager prior to bid opening.

1.5 QUALITY ASSURANCE

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

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturers written instructions.

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products to allow for inspection and measurement of quantity or counting of units.
6. Store materials in a manner that will not endanger Project structure.
7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
8. Comply with product manufacturers written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

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

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures: Procedures for product selection include the following:

1. Product(s): Where Specification paragraphs or subparagraphs titled "Product" or “Products” name one or two products and manufacturers, provide one of the products named.

    a. Substitutions may be considered, unless otherwise indicated.

2. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of three (3) or more names of both products and manufacturers, provide one of the products listed that complies with requirements.

3. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturers or from the sources named that complies with requirements.

    a. Substitutions may be considered, unless otherwise indicated.

4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of three (3) or more manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable product or system by another manufacturer, if substitutions are allowed. Comply with provisions in "Product Substitutions" Article.
6. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Product[**s**]" are included and also introduce or refer to a list of three (3) or more manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

    a. Substitutions may be considered, unless otherwise indicated.

7. Or Equal: Where products and/or manufacturers are specified by name and accompanied by the term “or equal” or “or approved equal” or “or as approved”, comply with the provisions in “Product Substitutions” Article.
8. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches

Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.

a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.

9. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.

a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. Timing: Architect will consider requests for substitution if received no later than ten (10) days prior to the date established for opening of bids. Architect will also consider requests for substitution submitted with the bid proposal, as described below. Requests received after that time will be rejected.

1. Substitutions Submitted With Bid Package: Contractor may submit fully documented substitution requests with his bid proposal, but does so at his own risk, as such proposed substitution are subject to the approval of the Architect.

B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted, as per provisions in “Submittals” Article.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.

10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:

1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

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

B. Related Sections include the following:

1. Division 1 Section "Temporary Facilities and Controls" for procedures for coordinating temporary utilities, temporary partitions and other temporary facilities with other construction facilities.
2. Division 1 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
3. Division 1 Section "Closeout Procedures" for final cleaning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

   a. Description of the Work.
   b. List of detrimental conditions, including substrates.
   c. List of unacceptable installation tolerances.
   d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect on the form at the end of this Section. Include a detailed description of problem encountered, together with recommendations (if any) for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

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

B. Building Lines and Levels: Locate and lay out control lines and levels for installation of the work, including those required for mechanical and electrical work.

C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Make the log available for reference by Architect.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

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

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

G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 PROGRESS CLEANING

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

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80ºF (27ºC).
3. Provide dumpsters on site for depositing of waste materials. Locate on site where approved by the Owner. Empty dumpsters legally off site when full. Do not allow dumpsters to overflow.
4. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

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

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

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

3.7 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017329 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 2 Section "Selective Demolition" for demolition of selected portions of a building for alterations. Located on the drawings.

1.3 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

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

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.

6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

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

B. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

1. Primary operational systems and equipment.
2. Fire-protection systems.
3. Control systems.
4. Communication systems.
5. Electrical wiring systems.

C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.
6. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

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

1.6 WARRANTY

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

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

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 017329

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1. Inspection procedures.
2. Project Record Documents.
3. Warranties.
4. Instruction of Owner's personnel.
5. Final cleaning.

B. Related Sections include the following:

1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
4. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
5. Divisions 2 through 7 Sections for specific closeout and special cleaning requirements for products of those Sections.

1.3 SUBSTANTIAL COMPLETION

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

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
8. Complete final cleaning requirements, including touchup painting.
9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Page number.

4. Indicate the reason why each item of the Work is not complete.

1.6 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

B. Record Drawings: Maintain and submit one set of black-line white prints of Contract Drawings and Shop Drawings.

1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

    a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
    b. Accurately record information in an understandable drawing technique.
    c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
    d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
3. Mark important additional information that was either shown schematically or omitted from original Drawings.
4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Note related Change Orders where applicable.

D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.7 WARRANTIES

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

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

A. Instruction: Instruct Owner's personnel to maintain systems.

1. Provide instructors experienced in operation and maintenance procedures.
2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
3. Schedule training with Owner with at least seven days' advance notice.
4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:

1. Review of documentation.
2. Troubleshooting.
3. Maintenance.
4. Repair.

3.2 FINAL CLEANING

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

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Remove tools, construction equipment, machinery, and surplus material from Project site.
    c. Remove labels that are not permanent.
    d. Remove temporary protections that are not to remain.
    e. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
    f. Wipe surfaces of mechanical and electrical equipment, and similar equipment.
    g. Leave Project clean.

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

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1. Operation and maintenance manuals for systems, subsystems, and equipment.
2. Maintenance manuals for the care and maintenance of products, materials, and finishes.

B. Related Sections include the following:

1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Division 1 Section "Closeout Procedures" for submitting operation and maintenance manuals.
3. Divisions 2 through 7 Sections for specific operation and maintenance manual requirements for products in those Sections.

1.3 DEFINITIONS

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

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

1.4 SUBMITTALS

A. Final Submittal: Submit 2 copies of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.

1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

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

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (115-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (115-by-280-mm), 20-lb/sq. ft. (75-g/sq. m) white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 OPERATION AND MAINTENANCE MANUALS

A. Content: In addition to requirements in this Section, include operation and maintenance data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Wiring diagrams.
6. Control diagrams.
7. Piped system diagrams.
8. Precautions against improper use.
9. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.

8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

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

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

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

1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

G. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if available.

H. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

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

I. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

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

K. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

L. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include instructions and procedures for each type of emergency,

and responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

1. Include the following, as applicable:

    a. Instructions on stopping.
    b. Shutdown instructions for each type of emergency.
    c. Operating instructions for conditions outside normal operating limits.
    d. Required sequences for electric or electronic systems.
    e. Special operating instructions and procedures.

2.3 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

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

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

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

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

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

C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.

E. Comply with Division 1 Section "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Rooftop equipment bases and support curbs.
2. Wood blocking, cants, and nailers.

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.

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

1.4 ACTION SUBMITTALS

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

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

C. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with ground.

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

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.

4. Cants.

B. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

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

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel.

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

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, as appropriate for the substrate.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

C. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

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

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

F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Full tear-off of entire roof system.
2. Removal of flashings and counterflashings.

B. Related Requirements:

1. Section 011000 "Summary" for use of premises and for phasing requirements.
2. Section 015000 "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.

1.3 DEFINITIONS

A. EPS: Molded (expanded) polystyrene.

B. Full Roof Tear-off: Removal of existing roofing system down to existing concrete roof deck.

C. OSB: Oriented strand board.

D. Partial Roof Tear-off: Removal of selected components and accessories from existing roofing system.

E. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

F. Roof Re-Cover Preparation: Existing roofing system is to remain and be prepared for new roof installed over it.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:

    a. Reroofing preparation, including roofing system manufacturer's written instructions.
    b. Temporary protection requirements for existing roofing system components that are to remain.
    c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
    d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
    e. Existing roof deck conditions requiring Architect notification.
    f. Existing roof deck removal procedures and Owner notifications.
    g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
    h. Structural loading limitations of roof deck during reroofing.
    i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
    j. HVAC shutdown and sealing of air intakes.
    k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
    l. Asbestos removal and discovery of asbestos-containing materials.
    m. Governing regulations and requirements for insurance and certificates if applicable.
    n. Existing conditions that may require Architect notification before proceeding.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.6 INFORMATIONAL SUBMITTALS

A. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.

    1. Submit before Work begins.

B. Landfill Records: Indicate receipt and acceptance of demolished roofing materials and hazardous wastes, such as asbestos-containing materials, by a landfill facility licensed to accept them.

1.7 FIELD CONDITIONS

A. Existing Roofing System:
   1. County Center Roof: EPDM roofing.
   2. Jail Roof: Ballasted EPDM

B. Owner will occupy portions of building immediately below reroofing area.

   1. Conduct reroofing so Owner's operations are not disrupted.
   2. Provide Owner with not less than 72 hours' written notice of activities that may affect Owner's operations.
   3. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.

C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

D. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
   1. The results of an analysis of test cores from existing roofing system are available for Contractor's reference.
   2. Project Manual for existing roofing system are provided for Contractor's convenience and information, but they are not a warranty of existing conditions. They are intended to supplement rather than serve in lieu of Contractor's own investigations. Contractor is responsible for conclusions derived from existing documents.

E. 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.

   1. Remove only as much roofing in one day as can be made watertight in the same day.

F. Hazardous Materials: A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except according to procedures specified elsewhere in the Contract Documents.
   3. Coordinate reroofing preparation with hazardous material remediation to prevent water from entering existing roofing system or building.

PART 2 - PRODUCTS

2.1 AUXILIARY REROOFING MATERIALS

A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new roofing system.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protection of In-Place Conditions:

1. Protect existing roofing system that is not to be reroofed.
2. Loosely lay 1-inch- (25-mm-) minimum thick, EPS insulation over existing roofing in areas not to be reroofed.

    a. Loosely lay 15/32-inch (12-mm) plywood or OSB panels over EPS. Extend EPS past edges of plywood or OSB panels a minimum of 1 inch (25 mm).

3. No traffic and material storage to areas of existing roofing that have been protected.
4. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
5. Comply with requirements of existing roof system manufacturer's warranty requirements.

B. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.

C. Shut off rooftop utilities and service piping before beginning the Work.

D. Test existing roof drains to verify that they are not blocked or restricted.

1. Immediately notify Architect of any blockages or restrictions.

E. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.

1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

F. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.

G. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday.

1. Prevent debris from entering or blocking roof drains and conductors.

    a. Use roof-drain plugs specifically designed for this purpose.

b. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

2. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding.

a. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 ROOF TEAR-OFF

A. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.

B. Remove aggregate ballast from roofing.

C. Full Roof Tear-off: Remove existing roofing and other roofing system components down to the existing concrete roof deck.

1. Remove vapor retarder, and roof insulation.
2. Remove base flashings and counter flashings.
3. Remove perimeter edge flashing and gravel stops.
4. Remove copings.
5. Remove expansion-joint covers.
6. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
7. Remove roof drains indicated on Drawings to be removed.
8. Remove wood blocking, curbs, and nailers.
9. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry.

a. Remove unadhered bitumen, unadhered felts, and wet felts.

10. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

A. Inspect deck after tear-off of roofing system.

B. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.

1. Do not proceed with installation until directed by Architect.

3.4 BASE FLASHING REMOVAL

A. Remove existing base flashings.

1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.

B. Do not damage metal counterflashings that are to remain.

1. Replace metal counterflashings damaged during removal with counterflashings [of same metal, weight or thickness, and finish as existing.

C. Inspect parapet framing, wood blocking, curbs, and nailers for deterioration and damage. Notify Architect of condition.

3.5 DISPOSAL

A. Collect demolished materials and place in containers.

1. Promptly dispose of demolished materials.
2. Do not allow demolished materials to accumulate on-site.
3. Storage or sale of demolished items or materials on-site is not permitted.

B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

SECTION 075601 – BUILT-UP FLUID-APPLIED ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes cold-applied built-up fluid-applied roofing system on concrete decks, consisting of, but not limited to, the following:

1. Removal and legal disposal of existing roofing, flashing, and insulation down to concrete deck.

2. Trilaminate vapor retarder adhered to primed concrete deck in solvent free adhesive.

3. R-30 rigid insulation, cold applied.

4. Cover board, cold applied.

5. Trilaminate base ply adhered in solvent-free cold adhesive.

6. Fully reinforced, fluid-applied system applied to all roofing and base flashings.

7. Slip resistant walkway areas.

B. Related Requirements:

1. Division 07 Section "Sheet Metal Flashing and Trim" for formed metal roof flashings and counter flashings,

2. Division 07 Section "Roof Specialties."

3. Division 07 Section "Preparation for Re-Roofing" for existing roofing tear off and substrate preparation for installation of new roofing membrane.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing Manual" for definition of terms related to roofing work in this Section.

1.4 ACTION SUBMITTALS

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

B. Shop Drawings:

1. Tapered insulation pattern, including thicknesses and slopes.

2. Crickets, saddles, and tapered edge strips, including slopes.

C. Samples for Verification: For the following products:

1. 3-by-3-inch minimum sample of cured aliphatic reinforced fluid-applied roofing system (base coat / reinforcement / top coat).

2. 8-by-10-inch sample of trilaminate vapor retarder ply.

3. 8-by-10-inch sample of trilaminate roofing base ply.

4. 4-by-4-inch sample of roof insulation and cover board.

5. 3 lb (1.5 kg) of granule walkway surfacing aggregate.

1.5 INFORMATIONAL SUBMITTALS

A. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

B. Manufacturer Certificates: Signed by roofing manufacturer certifying that built-up fully-reinforced fluid-applied roofing complies with requirements specified in "Performance Requirements" Article.

1. Provide copy of FM RoofNav assembly or UL TGFU/TGIK compliance with specified wind uplift and fire rating requirements. Note any deviations from published assembly.

C. Qualification Data: For manufacturer’s Technical Representative.

D. Warranties: Sample of warranties as specified in this Section.

1.6 CLOSEOUT SUBMITTALS

A. Warranties: Executed copies of approved warranty forms.

B. Completion Report: Report from manufacturer showing photos taken during every-other-day technical inspections, and descriptions of work stages completed.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer to perform Work of this Section who has specialized in installing cold process roofing systems; who is approved, authorized, or licensed by the roofing system manufacturer to install manufacturer's product; and who is eligible to receive and issue the roofing manufacturer's warranty.

1. Applicators to include a list of three (3) projects, completed within the last five (5) years of, similar size, and within 150 miles of project site, using the submitted manufacturer's cold applied roofing products. Include names and addresses of Architects and Owners, and other information with bid. Architect may request copies of existing in-service warranties to validate project information.

2. Applicators must have their main office and shop located within 80 miles of project site, and have been continuously in business at that location for the past ten years.

B. Inspections: Manufacturer's Technical (non-sales) Representative must inspect roof installation every other day and report progress to Owner's representative. Provide progress photos for application of each operation of roofing system. In addition to regular inspections, Manufacturer's Technical (non-sales) Representative shall be present for roof work starts at each section. Manufacturer's Technical Representative shall provide proof of no less than 10 years' experience in the Roofing Industry.

C. Roofing Inspector Qualifications: A full time technical representative of manufacturer (non-sales) experienced in the installation and maintenance of the specified roofing restoration system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification.

1. The Roofing Inspector shall be one of the following:

a. An authorized full-time technical employee of the manufacturer with 10 years' experience in commercial roofing.

b. If manufacturer does not employ full time technical personnel, inspection personnel shall be certified as a Registered Roof Observer by the Roof Consultants Institute, and shall be experienced in the installation and maintenance of the specified roofing system and qualified to determine Installer's compliance with the requirements of this Project.

D. Random Sampling:

1. Roofing material:

a. During course of work, Owner's Representative may secure samples per ASTM D140-93 of materials being used from containers at job site and submit them to an independent laboratory for comparison to specified material.

b. Should test results prove that a material is not functionally equal to specified material:

1) Contractor shall pay for all testing.

2) Roofing installed and found not to comply with the specifications shall be removed and replaced by contractor at no change in the contract price.

E. Pre-Bid Roofing Conference: Conduct conference at Project site.

F. Pre-installation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review status of required submittals.

5. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.

6. Review structural loading limitations of roof deck during and after roofing.

7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

8. Review governing regulations and requirements for insurance and certificates if applicable.

9. Review temporary protection requirements for existing roofing sections and systems during and after installation.

10. Review roof observation and repair procedures after roofing installation.

1.8 SUBSTITUTIONS

A. If bidding a substitute system, Contractor must bid specified system and submit separate bid for the substitute system. Substitute system must be identified during the pre-bid job walk to give all bidders equal opportunity. Bidders proposing substitutes shall submit the following to Owner a minimum of 4 business days prior to bid date:

1. Written explanation of why the substitute system should be considered.

2. Accredited third-party testing certifications showing that the physical and performance characteristics for ASTM D7311 of the substitute system's products will meet or exceed those of the specified materials.

3. Copy of current RoofNav Assembly showing minimum FM 1A-120 compliance for proposed substitute system.
4. A written summary detailing the comparison of the specified products and the proposed substitute products; including printed versions of all manufacturers' current product data sheets for all products being proposed or compared in the required summary.
5. Smallest standard package of, and product data sheets for, all proposed substitute base coat, top coat, reinforcing mesh, adhesives, coatings, mastics, sealants, ply sheets and coatings.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. 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.

C. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.

1. Store all materials prior to application at temperatures between 60 and 90 deg. F.

2. Apply coatings within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 50 or above 110 deg. F.

3. Do not leave unused felts, coatings or other sheet materials on the roof overnight or when roofing work is not in progress unless protected from weather and moisture and unless maintained at a temperature exceeding 50 deg F.

4. Do not apply roofing in snow, rain, fog, or mist.

D. Protect roof insulation materials from physical damage and from deterioration by 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.

E. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

F. Contractor is responsible for the safekeeping of materials stored onsite.

1.10 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately below roofing area. Conduct roofing so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

B. Protect building, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from roofing operations.

C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

D. Weather Limitations: Proceed with roofing work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.

1. Store all materials prior to application at temperatures between 60 and 90 deg. F.

2. All insulation components must be stored inside or outside in a dry environment.

3. Any installation of wet insulation is always considered cause for roof system warranty rejection.

4. Only enough material should be taken to the installation point from the warmer storage location that can be actually installed within 30 minutes of arrival.

5. Under no circumstances, will the manufacturer accept the installation of any roof system components in any type of moisture condition. If rain or snow is present, work must be stopped immediately, and all newly installed components must be immediately protected from the moisture.

6. Apply coatings within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 50 or above 110 deg. F.

7. Do not apply roofing in snow, rain, fog, or mist.

E. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of coated roofing sheet set in urethane mastic with joints and edges sealed.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

3. Remove temporary plugs from roof drains at end of each day.

4. Remove and discard temporary seals before beginning work on adjoining roofing.

1.11 WARRANTY

A. Manufacturer’s Roofing Warranty: Submit a written warranty, signed by the roofing system manufacturer agreeing to promptly repair any leaks in the roof membrane system resulting from defects in materials or workmanship including all components of roofing system such as roofing base ply and adhesives, fluid-applied roofing and flashings, insulation, cover board, insulation adhesive, fasteners, and perimeter metal flashing components for the indicated warranty period.

1. Manufacturer’s 30-Year System Warranty.

2. Indicate a wind speed warranty of up to 90 M.P.H., as reported by the certified weather reporting station nearest to the site for Little Valley N.Y.

3. Provide a sample copy of manufacturer’s warranty written as specified, stating obligations, remedies, limitations, and exclusions of warranty with bid.

4. Warranty shall run for a continuous 30 years.

5. Warranty will not be accepted that contains any requirement(s) for Owner to renew the warranty at any time during the 30-year period.

6. In year(s) number 2, 5, 10, 15, 20 and 25 of this warranty, manufacturer shall provide roof inspections, and limited housekeeping services, at no additional charge.

B. Installer/Roofing Contractor Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of roofing system such as roofing base ply and adhesives, fluid-applied roofing and flashings, insulation, cover board, insulation adhesive, fasteners, and metal roof components.

1. The warranty shall guarantee material and workmanship for watertightness, weathertightness, and against all leaks for a period of two (2) years. During the two-year period, the contractor shall respond and fix all reported leaks within 24 hours from time of notification, and fix all leaks without any cost to the Owner.

2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

A. Basis-of-Design Manufacturer/Product: The roof system specified in this Section is based upon Tremco, Inc. products named in other Part 2 articles. Subject to compliance with specified requirements, provide the named product, or an approved-equal product by one the following:

1. Tremco (Basis of Design)

a. AlphaGuard MT BC

b. AlphaGuard MT TC

2. Sika

a. Sikalastic 601 BC

b. Sikalastic 601 TC

3. Kemper

a. PK2-PUR Base Coat

b. Kemperdur Deko 2KS-FR Finish Coat

B. Built-up Fluid-Applied Roofing System shall consist of a high tensile, rubber-modified base ply adhered in solvent-free cold adhesive, moisture-triggered aliphatic polyurethane base coat, full field and flashing reinforcement and a moisture-triggered aliphatic polyurethane top coat. Moisture-cured, polymethyl-methacrylate (PMMA),

aromatic urethanes, aromatic polyurethanes, silicones, catalyzed resins and acrylic coatings are not permitted.

2.2 PERFORMANCE REQUIREMENTS

A. General: Provide roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. No torch-down or self-adhering roofing products are acceptable on this project.

D. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated per ASCE 7-10.

1. Jail Roofs

a. Field-of-Roof Uplift Pressure: 33.9 lbf/sq. ft.

b. Perimeter Uplift Pressure: 56.9 lbf/sq. ft.

c. Corner Uplift Pressure: 85.5 lbf/sq. ft.

2. Office Building Roofs

a. Field-of-Roof Uplift Pressure: 52.0 lbf/sq. ft.

b. Perimeter Uplift Pressure: 81.0 lbf/sq. ft.

c. Corner Uplift Pressure: 111.0 lbf/sq. ft.

E. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or FMG and acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.

F. Reinforced fluid-applied roofing and flashing systems shall consist of moisture-triggered aliphatic polyurethane base coat, full field and flashing reinforcement, and a moisture-triggered aliphatic polyurethane top coat.

1. Moisture-cured, polymethyl-methacrylate (PMMA), aromatic urethanes, aromatic polyurethanes, silicone, catalyzed resins and acrylic coatings are not permitted.

G. Flashings: Comply with requirements of Division 07 Sections “Sheet Metal Flashing and Trim” and “Roof Specialties.” Provide base flashings, perimeter flashings, detail flashings and component materials that comply with requirements and recommendations of the following:

1. FMG 1-49 Loss Prevention Data Sheet for Perimeter Flashings.

2. FMG 1-29 Loss Prevention Data Sheet for Above Deck Roof Components.

3. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.

4. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.

5. SPRI Wind Design Standard: Manufacture and install roof-edge flashings tested per SPRI ES-1 and capable of resisting roof-specific design pressures.

2.3 MATERIALS

A. General: Roofing materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system.

B. General: Provide adhesive and sealant materials recommended by roofing manufacturer for intended use and compatible with built-up roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with limits for VOC content as calculated per 40 CFR 59, Subpart D (EPA Method 24).

2.4 VAPOR RETARDER MATERIALS

A. Trilaminate-Reinforced Vapor Retarder Ply: Polyester/glass scrim/glass mat trilaminate reinforcement coated with waterproofing asphalt, dusted with fine mineral surfacing on both sides, meeting ASTM D 4601 Type II, and the following minimum properties:

1. Tensile Strength @ 77 deg F, minimum, ASTM D 5147: machine direction, 160 lbf/in; cross machine direction, 145 lbf/in.

2. Tear Resistance @ 77 deg F. minimum, ASTM D 5147: machine direction, 255 lbf; cross machine direction, 225 lbf.

3. Thickness, minimum, ASTM D 5147: 60 mils.

B. Cold Applied Solvent-Free Adhesive for Vapor Retarder: One part, asbestos-free, solvent-free cold applied adhesive specially formulated for compatibility and use with specified trilaminate vapor retarder plies, with the following physical properties:

1. Asbestos content: None EPA 600/R-93/116.

2. Solids/weight, minimum 92%, ASTM D 6511.

3. Volatile Organic Compounds (VOC), maximum: ASTM D 3960: 30 g/L.

2.5 ROOFING BASE PLY MATERIALS

A. Trilaminate-Reinforced Roofing Base Ply: Polyester/glass scrim/glass mat trilaminate reinforcement coated with waterproofing asphalt, dusted with fine mineral surfacing on both sides, meeting ASTM D 4601 Type II, and the following minimum properties:

1. Tensile Strength @ 77 deg F, minimum, ASTM D 5147: machine direction, 160 lbf/in; cross machine direction, 145 lbf/in.

2. Tear Resistance @ 77 deg F. minimum, ASTM D 5147: machine direction, 255 lbf; cross machine direction, 225 lbf.

3. Thickness, minimum, ASTM D 5147: 60 mils.

B. Cold Applied Solvent-Free Adhesive for Roofing Base Ply: One part, asbestos-free, solvent-free cold applied adhesive specially formulated for compatibility and use with specified trilaminate vapor retarder plies, with the following physical properties:

1. Asbestos content: None EPA 600/R-93/116.

2. Solids/weight, minimum 92%, ASTM D 6511.

3. Volatile Organic Compounds (VOC), maximum: ASTM D 3960: 30 g/L.

2.6 FLUID-APPLIED ROOFING MEMBRANE & FLASHINGS

A. Polyurethane Elastomeric Fluid-Applied System: Elastomeric, two-coat single-component moisture triggered aliphatic polyurethane fluid-applied roofing formulated for application to existing built-up roofing, with the following minimum physical properties:

1. Aliphatic Urethane Base Coat:

a. Asbestos Content, EPA/600/R-93/116: None.

b. Volatile Organic Compounds (VOC), ASTM D 3960: Not greater than 40 g/L.

c. Percent solids (by weight), ASTM D 1644: Not less than 85 percent.

2. Aliphatic Urethane Top Coat: UV-stabilized, chemical-resistant top coat:

a. Asbestos Content, EPA/600/R-93/116: None.

b. Volatile Organic Compounds (VOC), ASTM D 3960: Not greater than 40 g/L.

c. Elongation at break, ASTM D 412: Not less than 340 percent

d. Tensile Strength, ASTM D 412: Not less than 1,400 lbf/sq. in.

e. Tear Resistance, ASTM D 624: Not less than 150 lbf/in.

f. Accelerated weathering, 5000 hour, ASTM G 154: Pass, no cracking or checking.

g. Percent solids (by weight), ASTM D 1353: Not less than 85 percent.

h. Color: As selected by Owner from manufacturer's full color range.

B. Polyester Reinforcing Fabric: Stitch-bonded polyester fabric, minimum weight 3-ounce per square yard, full reinforcement, for fluid-applied membrane and flashings.

2.7 AUXILIARY ROOFING MEMBRANE MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and fluid-applied roofing system.

B. Solvent-Free Mastic: Manufacturer's solvent-free mastic for use at vapor retarder seals.

C. Structural Concrete/Masonry Primer: Two-component, 100 percent solids, epoxy penetrating primer for concrete deck surfaces.

D. Metal Surface Primer: Single-component, water based primer to promote adhesion of base coat to metal surfaces.

E. Asphaltic Surfaces Primer: Single-component, multi-substrate primer to promote adhesion of base coat to bituminous surfaces as recommended by manufacturer.

F. Reactivation Primer: Single component urethane primer to promote adhesion of additional urethane coatings layers over cured urethane coating layers.

G. Joint Sealant: Single component, high solids, moisture curing polyurethane sealant as recommended by manufacturer.

H. Urethane Mastic: Single component, high solids moisture curing, polyurethane mastic for use at sealing roofing penetrations and transitions.

I. Pitch Pocket Mastic: Two-component pitch pocket flashing sealer as approved by roofing manufacturer.

J. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

K. Sealant: Compatible urethane sealant.

L. Fasteners: Factory-coated steel fasteners meeting corrosion-resistance provisions in FM Approvals 4470.

M. Expansion Joint Void Insulation: Un-faced, compressible glass-fiber blanket insulation: ASTM C 665, Type I, thicknesses as required to fill expansion joint voids.

N. Expansion Joint Void Topper: ASTM C 1330, Type C (closed-cell material with a surface skin) or Type B (bi-cellular material with a surface skin), cylindrical foam insulation backer rod, three-inch diameter.

O. Expansion Joint Void Vapor Retarder: Polyethylene-Sheet, ASTM D 4397, 6 mil thickness, minimum.

A. Elastomeric Stripping Adhesive: One-part, solvent-free, elastomeric mastic for use as membrane flashing adhesive and three course elastomeric stripping where flashing ends on roofing base ply.

B. Elastomeric Flashing Sheet: Elastomeric, polyester-reinforced sheet with EPDM and SBR elastomers and the following physical properties:

1. Breaking Strength, minimum, ASTM D 751: machine direction 340 lbf; cross machine direction 290 lbf.

2. Tear Strength, minimum, ASTM D 751: machine direction 75 lbf; cross machine direction 75 lbf.

3. Elongation at Failure: ASTM D 751: 25 percent minimum.

4. Low Temperature Flexibility, minimum, ASTM D 2136: -35 deg. F.

5. Thickness: Minimum 45 mils.

C. Vent Pipe Extensions: PVC pipe extensions by Tubos Inc. or equal.

D. Plumbing Stacks and Drain Bowls:

1. 4 lb. lead sheet, ASTM B29-79.

E. Pitch Pocket Flashings and Hoods:

1. 16-ounce copper, mill finish.

F. Vent Stack Flashings & Rain Collars:

1. 26-gauge minimum.

2. Stainless steel.

G. Counter Flashings:

1. .040” aluminum.

2. 2-coat kynar paint finish.

3. Color as selected by Owner’s representative.

H. Perimeter Metal Edge and Copings:

1. .050” aluminum.

2. 2-coat kynar paint finish.

3. Color as selected by Owner’s representative.

I. Continuous Cleats:

1. 22-gauge galvanized steel, or, .050” aluminum.

2. Extruded aluminum if manufactured fascia is used.

J. New Pipe Portal Curb Caps:

1. By Portals Plus, or Equal.

2. PVC or plastic curb cap.

3. EPDM caps

4. Stainless steel clamping rings

5. Gasketed fasteners.

K. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

2.8 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, HCFC-free, with felt or glass-fiber mat facer on both major surfaces.

1. R-Value 30.

2. Flat Stock Insulation: Overall thickness of 5.2 inches.

a. Base layer of 2.6 inches.

b. Top layer of 2.6 inches.

3. Tapered insulation: Sloped as indicated on drawings.

C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to minimum slope of 1/2 inch per 12 inches.

2.9 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with built-up roofing.

B. Insulation Adhesive: Solvent-free, low rise, multi-component adhesive formulated to adhere roof insulation to substrate.

C. Provide wood cants and blocking as required by FM 1-49 and to meet manufacturer’s warranty requirements.

D. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

2.10 COVER BOARD

A. Cover Board: USG Corporation; Securock Gypsum Fiber Roof Board: ASTM C 1278/C 1278M, cellulosic-fiber-reinforced, water-resistant gypsum substrate.

1. 1/2 inch thick.

B. Cover Board Insulation Adhesive: Solvent-free, low rise, multi-component urethane adhesive formulated to adhere roof insulation to substrate.

2.1 RETROFIT ROOF DRAINS (Where required to replace drain inserts)

A. Replace existing inserts with cast/spun aluminum type units.

1. Features and Construction:

a. Flange: 18” diameter, spun aluminum.

b. Asphalt primed surface at modified bitumen roofing.

c. Clamping Ring, cast aluminum.

d. Strainer: 10” diameter, locking, cast aluminum.

e. Outlet of malleable metal alloy, sized to fit inside existing drain pipe. Outlet to be expanded, creating metal-to-metal seal.

f. Funnel Drain Profile to suit conditions encountered.

2. Acceptable Products:

a. Marathon Roofing Products / Aluminator.

b. OMG / Hercules U-Flow Retrofit Drain.

c. No substitutions permitted.

2.2 SLIP-RESISTANT WALKWAYS

A. Urethane Top Coat: Field & flashing top coat product.

1. Color: To match fluid-applied roofing top coat color.

B. Top Coat Aggregate: For finish coat slip resistance walkways. Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 sieve and 98 percent of mass retained on No. 40 sieve.

1. Color: White.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.

2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

3. Verify that substrate is visibly dry, free of moisture, and has no projecting fasteners above the concrete deck.

4. Owner’s Representative to inspect concrete roof deck for soundness before vapor barrier is installed.

3.2 PREPARATION

A. Remove existing roofing insulation and flashings down to roof decks as indicated on drawings.

B. Protect all existing roof sections that will experience contractor foot traffic or materials staging by the following methods:

1. Contractor must cover affected roof area with minimum two-inch-thick expanded polystyrene insulation covered with 3/4-inch-thick plywood.

2. Stagger joints to provide an even walking/working surface.

3. Ballast protection in place, to prevent wind uplift, with sandbags as required to retain protective covering in place during construction.

4. Comply with warranty requirements of existing roof membrane manufacturer.

5. Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.

6. Limit traffic and material storage to areas of existing roofing membrane that have been protected.

7. Maintain temporary protection and leave in place until replacement roofing has been completed.

8. Protect existing roofing system that is indicated to remain, and adjacent portions of building and building equipment.

C. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation per roofing manufacturer's written instructions. Remove sharp projections.

D. Shut down air intake equipment near the Work in coordination with the Owner. Cover air intake louvers before proceeding with re-coating work that could affect indoor air quality or activate smoke detectors in the ductwork.

1. Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.

E. 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. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing membrane according to roofing manufacturer's written instructions.

1. Commence installation of roofing in presence of manufacturer's technical personnel.

B. Coordinate installation of roofing so insulation and other components of roofing not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement with joints and edges sealed.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

3. Remove and discard temporary seals before beginning work on adjoining roofing.

C. Substrate-Joint Penetrations: Prevent fluid-applied materials and adhesives from penetrating substrate joints, entering building, or damaging built-up roofing components or adjacent building construction.

3.4 VAPOR-RETARDER INSTALLATION

A. Over primed deck, install one trilaminate vapor retarder ply sheet lapping each sheet minimum four inches over preceding sheet in shingle fashion. Embed each sheet in a solid application of cold solvent-free adhesive at a minimum rate of 2.0 gallons per 100 square feet. Roll ply into adhesive with a four-inch side lap and six-inch end lap minimum. Stagger end laps 18 inches.

1. Broom ply into adhesive.

2. Turn ply up at all perimeter walls and penetrations a minimum of four (4) inches and seal with solvent-free mastic.

B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air and moisture movement into roofing system.

3.5 INSULATION INSTALLATION

A. Comply with roofing manufacturer's written instructions for installing roof insulation.

B. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

C. Install insulation to provide continuous R Value of 30, except at roof sump locations.

D. Install insulation under area of roofing to achieve required thickness and R-Value. No insulation layer shall exceed 2.7 inches of thickness. Install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Install 48" x 48" tapered sumps at roof drain and scupper locations.

G. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

H. Adhered Insulation: Adhere all layers of insulation in cold applied adhesive.

1. Set insulation boards in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining in place per manufacturer's requirements.

2. Increase adhesive application rate by 50% in roof perimeters and 100% in roof corners as required to meet specified wind uplift.

3.6 COVER BOARD INSTALLATION

A. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.

1. Set cover board in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining cover in place.

2. Increase adhesive application rate by 50% in roof perimeters and 100% in roof corners as required to meet wind uplift.

3.7 ROOFING BASE PLY INSTALLATION

A. Install trilaminate base ply starting at low point of roofing. Align base ply without stretching. Shingle side laps of base ply a minimum of 4 inches. Run base ply to top of wood cants where required and fasten 12" o.c. End laps staggered 18 inches and lapped minimum of 6 inches. Shingle in direction to shed water. Extend base sheets over edges and terminate 12" o.c.

1. Embed base ply in solvent-free cold-applied membrane adhesive applied at a minimum rate of 2.0 gallons per 100 square feet, more as required by roofing manufacturer, to form a uniform membrane without ply sheets touching.

2. Roll ply into adhesive with a 4-inch side lap and 6-inch end lap minimum.

3. Broom ply into adhesive.

4. Turn ply up at perimeter walls, penetrations and transitions a minimum of four inches and seal with solvent free elastomeric mastic or urethane mastic.

B. Completely seal base ply at terminations, obstructions, and penetrations to prevent air and moisture movement into roofing system.

C. Install stripping per roofing manufacturer's written instructions where metal flanges and edgings are set on roofing.

1. Flashing Sheet Stripping: Install two-ply 2-ply trilaminate stripping in solvent-free or urethane mastic and extend onto installed roofing base ply membrane.

D. Roof Drains: Install base ply in cold adhesive around primed drain bowl.

1. Base sheet must be installed so that it will be under compression from the clamping ring.

2. Set primed 4lb lead in bed of solvent-free or urethane mastic.

3. Apply two plies of trilaminate base ply set in solvent-free mastic over primed lead flange.

3.8 EXPANSION JOINT FLASHING INSTALLATION

A. Prime substrates as required and adhere expansion joint membrane flashing in a solvent-free mastic vertically as indicated on drawings and onto trilaminate roofing base ply for a minimum of six inches.

B. Seal flashing membrane where it ends on roofing base ply with a three-course seal of urethane mastic and mesh.

C. Prime membrane as required by manufacturer before covering with fluid-applied materials.

3.9 FLUID-APPLIED BASE COAT APPLICATION

A. Substrate Priming: Prime substrates to receive fluid-applied system using system manufacturer's recommended product for each different surface material. Apply at application rate recommended by manufacturer.

1. Ensure primer does not puddle and substrate has complete coverage.

2. Allow to cure completely prior to application of coating.

B. FLASHING Base Coat Application: Complete base coat and fabric reinforcement at parapets, curbs, penetrations, 90 degree transitions, base flashings and drains prior to application of field of fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.

1. Vertical Surfaces: Extend coating system a minimum of 8 inches up, or to cover entire existing base flashing or penetration surface, whichever is greater.

2. Horizontal surfaces: Extend coating system a minimum of four (4) inches onto horizontal surfaces. Extend six (6) inches minimum where stripping is being applied over a metal flange.

3. Pour base coat onto roofing surface and spread evenly with a squeegee.

4. Back roll to achieve minimum wet mil coating thickness of 48 mils (3 gallons per 100 square feet) minimum; verify thickness of base coat as work progresses with a wet mill gauge.

5. Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 3 inches along edges and 6 inches at end laps.

6. Roll surface of fabric reinforcing to completely embed and saturate fabric.

7. Leave finished base coat with fully embedded fabric free of pin holes, voids, or openings.

8. Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install 48” x 48” target piece of fabric reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of top coat. Replace broken drain ring, clamping bolts and strainer as required.

9. Allow base coat to cure prior to application of top coat.

10. Extend fluid-applied flashings vertically to cover exposed termination bars and sealant runs as shown on details.

11. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of fabric reinforcement.

C. FIELD Base Coat: Apply base coat to field of membrane in accordance with manufacturer's written instructions.

1. Apply base coat on prepared and primed surfaces and spread coating evenly.

2. Pour base coat onto roofing surface and spread evenly with a squeegee.

3. Back roll to achieve minimum wet mil coating thickness of 48 mils (3.0 gallons per 100 square feet) minimum; verify thickness of base coat as work progresses with wet mil gauges.

4. Embed fabric reinforcement into wet base coat. Lap adjacent pieces of fabric minimum 3 inches along edges and 6 inches at end laps.

5. Roll surface of fabric reinforcing to completely embed and saturate fabric.

6. Leave finished base coat with fully embedded fabric free of pin holes, voids, or openings.

7. Extend field base coat a minimum of 4 inches over previously installed horizontal areas of flashing base coat.

8. Allow base coat to cure prior to application of top coat.

9. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of fabric reinforcement.

D. No top coat may be applied without a complete inspection and acceptance by the manufacturer’s technical inspector of the reinforced base coat application.

3.10 FLUID-APPLIED TOP COAT APPLICATION

A. FLASHING Top Coat Application: Apply top coat uniformly in a complete installation to flashings.

1. Flashing Top Coat may not be applied without a full inspection, and written approval, of reinforced base coat application by manufacturer’s technical inspector.

2. Prime base coat with re-primer prior to application of top coat if top coat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.

3. Apply top coat to flashings extending coating up vertical surfaces and out onto horizontal surfaces 4 inches minimum.

4. Install top coat over field base coat and spread coating evenly with a squeegee.

5. Back roll to achieve wet mil thickness of 32 mils (2 gallons per 100 square feet), minimum. Verify thickness of top coat as work progresses with wet mil gauges.

6. Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.

B. FIELD Top Coat Application: Apply top coat to field of membrane and flashings uniformly in a complete, continuous installation.

1. Prime base coat prior to application of top coat if top coat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.

2. Top Coat application to be applied and staged to ensure completed top-coated areas do not receive foot traffic after installation.

3. Apply field top coat extending coating out field and 4 inches over horizontal top coat flashing surfaces 4 inches minimum.

4. Install top coat over field base coat and spread coating evenly with a squeegee.

5. Back roll to achieve wet mil thickness of 48 mils (3.0 gallons per 100 square feet) minimum; verify thickness of top coat as work progresses with wet mil gauges.

6. Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.

7. Completed top coat surface to remain free from staining or debris from traffic or staged materials. Stained areas will be re-primed and re-coated at the sole expense of the installing contractor.

3.11 WALKWAY TOP COAT

A. Slip-Resistant Walkway Top Coat: Apply slip-resistant walkway top coat, following application and curing of field top coat, at all ladder/door/hatch roof access locations and at other areas as indicated on drawings.

1. Keep existing top coated surface clean and free of debris, marking or staining during walkway top coat application.

2. Mask walkway location with clean-release painter’s tape.

3. Prime field top coat prior to application of walkway top coat if walkway top coat is not applied within 72 hours of field top coat application, using manufacturer's recommended primer.

4. Back roll walkway top coat to achieve wet mil thickness of 24 mils (1.50 gallons per 100 square feet).

5. Broadcast 20 to 30 lbs. per 100 sq. ft. of Slip-Resistant Top Coat Aggregate granules in wet top coat.

6. Back roll granules and top coat creating even dispersal of granules. Remove masking immediately.

7. Avoid foot traffic until top coat has completely cured.

3.12 FIELD QUALITY CONTROL

A. Inspections: Manufacturer’s Technical (non-sales) Representative must inspect roof installation every other day and report progress to Owner’s representative. Provide progress photos for application of each operation of roofing system. In addition to regular inspections, Manufacturer’s Technical (non-sales) Representative shall be present for roof work starts at each section. Manufacturer’s Technical Representative shall provide proof of no less than 10 years’ experience in the Roofing Industry.

B. Roofing Inspector Qualifications: A full time technical representative of manufacturer (non-sales) experienced in the installation and maintenance of the specified roofing restoration system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer’s compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification.

1. The Roofing Inspector shall be one of the following:

a. An authorized full-time technical employee of the manufacturer with 10 years' experience in commercial roofing.

b. If manufacturer does not employ full time technical personnel, inspection personnel shall be certified as a Registered Roof Observer by the Roof Consultants Institute, and shall be experienced in the installation and maintenance of the specified roofing system and qualified to determine Installer's compliance with the requirements of this Project.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation every other day and on completion, and submit report to the Architect.

1. Manufacture shall verify watertightness of roof system by performing a nondestructive moisture survey after roof restoration coating system is completed.

2. All damages to roofing will be repaired to a watertight condition and brought back to a newly coated condition as specified, at the sole expense of the installing contractor.

3. Notify Architect or Owner 24 hours in advance of date and time of final inspection.

D. Contractor to repair coatings where manufacturer's inspector indicates that they do not comply with specified requirements.

E. Protect surrounding surfaces from overspray and wind drift of any coating materials.

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

3.13 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period.

B. Correct deficiencies in or remove coating that does not comply with requirements, repair substrates, and reapply coating.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075601

SECTION 07620 – SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Formed counterflashing.
2. Formed roof-drainage sheet metal fabrications.

B. Related Requirements:

1. Section 06105 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.

1.3 COORDINATION

A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
3. Review requirements for insurance and certificates if applicable.
4. Review sheet metal flashing observation and repair procedures after flashing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

B. Product Certificates: For each type of coping and roof edge flashing that is SPRI ES-1 tested.

C. Product Test Reports: For each product, for tests performed by a qualified testing agency.

D. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.8 QUALITY ASSURANCE

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

1. For copings and roof edge flashings that are SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.10 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting the design pressure.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

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

2.2 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.

2.3 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.

B. Synthetic Underlayment: Laminated or reinforced, woven polyethylene or polypropylene, synthetic roofing underlayment; bitumen free; slip resistant; suitable for high temperatures over 220 deg F (111 deg C); and complying with physical requirements of ASTM D 226/D 226M for Type I and Type II felts.

C. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. (0.16 kg/sq. m) minimum.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    b. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.

C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.

D. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.

1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
2. Obtain field measurements for accurate fit before shop fabrication.

3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.

D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.

G. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

A. Downspouts: Fabricate round downspouts to dimensions indicated, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors.
1. Fabricated Hanger Style: Fig 1-35A according to SMACNA's "Architectural Sheet Metal Manual."
2. Fabricate from the following materials:
a. Aluminum: 0.024 inch (0.61 mm) thick.

B. Parapet Scuppers: Fabricate scuppers to dimensions required, with closure flange trim to exterior, 4-inch- (100-mm-) wide wall flanges to interior, and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fabricate from the following materials:

1. Aluminum: 0.032 inch (0.81 mm) thick.

C. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape required, complete with outlet tubes, exterior flange trim. Fabricate from the following materials:

1. Aluminum: 0.032 inch (0.81 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

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

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches (50 mm).

B. Synthetic Underlayment: Install synthetic underlayment, wrinkle free, according to manufacturers' written instructions, and using adhesive where possible to minimize use of mechanical fasteners under sheet metal.

C. Apply slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

3.3 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, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by

painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

1. Coat concealed side of uncoated-aluminum sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.

D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction.

1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

3.4 ROOF-DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.

B. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints.

1. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c.
2. Provide elbows at base of downspout to direct water away from building.

C. Parapet Scuppers: Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.

1. Anchor scupper closure trim flange to exterior wall and seal with elastomeric sealant to scupper.

2. Loosely lock front edge of scupper with conductor head.

D. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch (25 mm) below scupper discharge.

3.5 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

3.6 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07620

SECTION 07710 – ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Copings.
2. Roof-edge specialties.
3. Pipe Support

B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 079200 "Joint Sealants" for field-applied sealants between roof specialties and adjacent materials.

C. Preinstallation Conference: Conduct conference at Project site**.**

1. Meet with Owner, Architect, Owner's insurer if applicable, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For roof specialties.

1. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.
2. Include details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.

3. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.
4. Detail termination points and assemblies, including fixed points.
5. Include details of special conditions.

C. Samples: For each type of roof specialty and for each color and texture specified.

D. Samples for Initial Selection: For each type of roof specialty indicated with factory-applied color finishes.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Product Certificates: For each type of roof specialty.

C. Product Test Reports: For copings and roof-edge flashings, for tests performed by a qualified testing agency.

D. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are SPRI ES-1 tested to specified design pressure.

B. Source Limitations: Obtain roof specialties approved by manufacturer providing roofing-system warranty specified in Section 07532 “EPDM Roofing.”

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.

B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication, and indicate measurements on Shop Drawings.

B. Coordination: Coordinate roof specialties with flashing, trim, and construction of parapets, roof deck, roof and wall panels, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 075601 “Built-Up Fluid Applied Roofing.”

B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
   b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
   c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

B. SPRI Wind Design Standard: Manufacture and install copings and roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:

1. Design Pressure: 110 mph uplift.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

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

2.2 COPINGS

A. Metal Copings: Manufactured coping system consisting of metal coping cap in section lengths not exceeding 12 feet (3.6 m), concealed anchorage; with corner units, end cap units, and concealed splice plates with finish matching coping caps.

1. Formed Aluminum Sheet Coping Caps: Aluminum sheet, 0.050 inch (1.27 mm) thick**.**
   a. Surface: Smooth, flat finish.
   b. Finish: Mill
   c. Color: As selected by Engineer from manufacturer's full range.
2. Corners: Factory mitered and soldered continuously welded.
3. Coping-Cap Attachment Method: Snap-on, fabricated from coping-cap material.
   a. Snap-on Coping Anchor Plates: Concealed, galvanized-steel sheet, 12 inches (300 mm) wide, with integral cleats.

2.3 ROOF-EDGE SPECIALTIES

A. Canted Roof-Edge Fascia: Manufactured, two-piece, roof-edge fascia consisting of compression-clamped metal fascia cover in section lengths not exceeding 12 feet (3.6 m) and a continuous formed galvanized-steel sheet cant, 0.028 inch (0.71 mm**)** thick, minimum, with extended vertical leg terminating in a drip-edge cleat. Provide matching corner units.

1. Formed Aluminum Sheet Fascia Covers: Aluminum sheet 0.050 inch (1.27 mm) thick.
   a. Surface: Smooth, flat finish.
   b. Finish: Mill.
   c. Color: As selected by Architect from manufacturer's full range.
2. Corners: Factory mitered and continuously welded.
3. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.
4. Fascia Accessories: Overflow scuppers.

2.4 PIPE SUPPORT

A. Adjustable-Height Roller-Bearing Pipe Supports: Polycarbonate pipe stand base, pipe support, and roller housing, with stainless-steel threaded rod designed for adjusting support height, accommodating up to 18 inch (457 mm) diameter pipe or conduit; with provision for pipe retainer and with manufacturer's support pad or deck plate as recommended for penetration-free installation over roof membrane type; as required for quantity of pipe runs and sizes.

1. Basis-of-Design: SS8-R Pipe Support by PHP Systems/Design or approved equal.

2.5 MATERIALS

A. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

2.6 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

B. Slip Sheet: Rosin-sized building paper, 3-lb/100 sq. ft. (0.16-kg/sq. m) minimum.

2.7 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.

B. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

C. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

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

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Coil-Coated Aluminum Sheet Finishes:
1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    a. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    b. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.

C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.

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

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install with adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches (50 mm).

B. Slip Sheet: Install with tape or adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches (50 mm).

3.3 INSTALLATION, GENERAL

A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of solder and sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.4 COPING INSTALLATION

A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor copings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate manufacturer's required spacing that meets performance requirements.

3.5 ROOF-EDGE SPECIALITIES INSTALLATION

A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.6 PIPE SUPPORT

A. Pipe Support Installation: Comply with MSS SP-58 and MSS SP-89. Install supports and attachments as required to properly support piping. Arrange for grouping of parallel runs of horizontal piping, and support together.

3.7 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

D. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 07710

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes sealants for the following applications, including those specified by reference to this Section:

1. Exterior joints in vertical surfaces and non-traffic horizontal surfaces.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.

D. Compatibility and Adhesion Test Reports: From sealant manufacturer indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

E. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
2. When joint substrates are wet.

B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.
2. Failures of elastomeric joint sealants covered under this Warranty include, but are not limited to cracking, crumbling, reversion, staining of adjacent substrates, water penetration, splitting, separation from substrates, and failure to maintain a weathertight seal.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Architectural Sealants: 360 g/L.
2. Nonmembrane Roof Sealants: 300 g/L.
3. Sealant Primers for Nonporous Substrates: 250 g/L
4. Sealant Primers for Porous Substrates: 775 g/L

C. Colors of Exposed Joint Sealants: Custom colors as selected by the Architect.

2.2 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant, including those referencing ASTM C 920 classifications for type, grade, class, and uses.

B. Additional Movement Capability: Where additional movement capability is specified, provide products with the capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the specified percentage change in the joint width existing at the time of installation and remain in compliance with other requirements of ASTM C 920 for uses indicated.

C. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

D. Medium-Modulus Neutral-Curing Silicone Sealant: Provide products complying with the following:

1. Products: Provide one of the following:
    a. 756 SMS; Dow Corning.
    b. 895NST; Pecora Corporation.
    c. Or approved equal.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 50.
4. Additional Movement Capability: 50% movement in extension and 50% movement in compression for a total of 100% movement.
5. Use[s] Related to Exposure: NT (non-traffic).
6. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
7. Stain-Test Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.
8. Dust and Dirt Attraction: Non-attracting to dust and dirt.
9. Applications: Exterior vertical and horizontal non-traffic joints, such as perimeter joints of door, window, louver or other exterior openings, joints between different materials, expansion/control joints; and interior vertical and horizontal non-traffic expansion joints.

2.3 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

1. Type C: Closed-cell material with a surface skin.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

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

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include, but are not limited to the following:
    a. Concrete.
    b. Masonry.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous surfaces include, but are not limited to the following:
    a. Metal.

B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

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

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

E. Install sealants by proven techniques to comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses provided for each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealants from surfaces adjacent to joint.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 07920

SECTION 086200 - UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Unit skylights mounted on existing site curbs.

1.3 MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of unit skylight.

   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for unit skylights.

B. Shop Drawings: For unit skylight work.

   1. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.

C. Aluminum Finish Samples: For each type of exposed finish required, in a representative section of each unit skylight in manufacturer's standard size.

D. Glazing Samples: For each color and finish of glazing indicated, 12 inches (300 mm) square and of same thickness indicated for the final Work.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified manufacturer.

B. Product Test Reports: For each type and size of unit skylight, for tests performed within the last four years by a qualified testing agency. Test results based on testing of smaller unit skylights than specified will not be accepted.

C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For unit skylights to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating unit skylights that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.

B. Installer Qualifications: An installer acceptable to unit skylight manufacturer for installation of units required for this Project.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Uncontrolled water leakage.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Yellowing of acrylic glazing.
d. Deterioration of insulating-glass hermetic seal.

2. Warranty Period: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Velux America, LLC.
2. Wasco Products, Inc.
3. Skyline Sky-Lites, LLC

2.2 PERFORMANCE REQUIREMENTS

A. Unit Skylight Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
   1. Performance Class and Grade: Class CW-PG 30.
   2. Certification: AAMA-, WDMA-, or CSA-certified unit skylights with label attached to each.

B. Thermal Transmittance: NFRC 100 maximum U-factor of 0.75 Btu/sq. ft. x h x deg F (4.26 W/sq. m x K)] .

C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum SHGC of 0.46.

2.3 UNIT SKYLIGHTS

A. General: Provide factory-assembled unit skylights that include glazing, extruded-aluminum glazing retainers, gaskets, and inner frames and that are capable of withstanding performance requirements indicated.

B. Unit Shape and Size: Square, 46 1/4-by-46 1/4-inch inside curb, verify dimensions in the field.

C. Acrylic Glazing: ASTM D 4802, thermoformable, monolithic sheet, category as standard with manufacturer, Finish 1 (smooth or polished), Type UVF (formulated with UV absorber).

   1. Double-Glazing Profile: [Dome, 25 percent rise.

      a. Thicknesses:Not less than thicknesses required to exceed performance requirements.
      b. Outer Glazing Color: White, translucent .
      c. Inner Glazing Color: Colorless, transparent.

   2. Self-Ignition Temperature: 650 deg F (343 deg C) or more for plastic sheets in thickness indicated when tested according to ASTM D 1929.
   3. Smoke-Production Characteristics: Smoke-developed index of 450 or less when tested according to ASTM E 84, and smoke density of 75 or less when tested according to ASTM D 2843
   4. Burning Characteristics: Tested according to ASTM D 635. Class CC2, burning rate of 2-1/2 inches (64 mm) per minute or less for nominal thickness of 0.060 inch (1.5 mm) or thickness indicated for use.

D. Glazing Gaskets: Manufacturer's standard.

E. Curb: Existing curb to remain. Add all necessary extruded-aluminum frame and accessories to secure sky light.

1. Extruded-Aluminum Shapes: ASTM B 221 (ASTM B 221M), alloy and temper to suit structural and finish requirements but with not less than the strength and durability of Alloy 6063-T52.

F. Condensation Control: Fabricate unit skylights with integral internal gutters and nonclogging weeps to collect and drain condensation to the exterior.

G. Thermal Break: Fabricate unit skylights with thermal barrier separating exterior and interior metal framing.

2.4 ACCESSORY MATERIALS

A. Fasteners: Same metal as metal being fastened, nonmagnetic stainless steel, or other noncorrosive metal as recommended by manufacturer. Finish exposed fasteners to match material being fastened.

1. Where removal of exterior exposed fasteners might allow access to building, provide nonremovable fastener heads.

B. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat.

2.5 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

PART 3 - EXECUTION

3.1 EXAMINATION

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

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

3.2 INSTALLATION

A. Coordinate installation of unit skylight with installation of roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight.

B. Comply with recommendations in AAMA 1607 and with manufacturer's written instructions for installing unit skylights.

C. Install unit skylights level, plumb, and true to line, without distortion.

D. Anchor unit skylights securely to supporting curbs.

E. Where aluminum surfaces of unit skylights will contact another metal or corrosive substrates, such as preservative-treated wood, apply bituminous coating on concealed metal surfaces or provide other approved permanent separation recommended in writing by unit skylight manufacturer.

3.3 CLEANING

A. Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes.

B. Remove excess sealants, glazing materials, dirt, and other substances.

C. Remove and replace glazing that has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION 086200

SECTION 099600 – HIGH PERFORMANCE COATINGS (HPC)

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Section includes surface preparation and application of high-performance coating systems on the following substrates:

1. Exterior Substrates:

a. Steel.

1.2 DEFINITIONS:

A. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

B. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 SUBMITTALS:

A. Product Data: For each type of product indicated. Include preparation requirements and application instructions.

B. Samples for Verification: For each type of coating system and in each color and gloss of topcoat indicated.

1. Submit Samples on rigid backing, 8 inches (200 mm) square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted
3. VOC content.

1.4 QUALITY ASSURANCE:

A. Sample Installations: Apply sample installations to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each coating system specified in Part 3.

   a. Wall Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m). b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on sample installations.

   a. If preliminary color selections are not approved, apply additional sample installations of additional colors selected by Architect at no added cost to Owner.

3. Approval of sample installations does not constitute approval of deviations from the Contract Documents contained in sample installations unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved sample installations may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING:

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS:

A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS:

A. Acceptable Products and Manufacturers:

1. Design is based on products manufactured by Tnemec Company Incorporated to establish standard of quality.
2. Equivalent systems may be acceptable provided they comply with requirements of Contract documents. Available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. DuPont.
b. Hempel.
c. Sherwin Williams.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL:

A. Material Compatibility:

1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a coating system, provide products recommended in writing by manufacturers of topcoat for use in coating system and on substrate indicated.
3. Provide products of same manufacturer for each coat in a coating system.

2.3 EPOXY COATINGS:

A. Exterior Ferrous 3-Coat System:
1. Series 90-97 Tneme-Zinc (Shop Prime - Field Touch-Up).
2. Series 161 Tneme-Fascure
3. Finish:
   a. Tnemec Endurashield II No. 1074U

B. Exterior Galvanized and Non-ferrous 2-Coat System:
1. Series 161 Tneme-Fascure
2. Exterior Finish: Tnemec Endurashield II No.1074U.

2.4 SOURCE QUALITY CONTROL:

A. Testing of Coating Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample coating materials. Contractor will be notified in advance and may be present when samples are taken. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION:

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION:

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Remove covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
2. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

3.3 APPLICATION:

A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for coating and substrate indicated.
2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 CLEANING AND PROTECTION:

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 ONE-YEAR INSPECTION:

A. Owner will set date for one-year inspection of coating systems.

B. Repair deficiencies in coating systems as determined by Architect in accordance with manufacturer's instructions.

3.6 EXTERIOR – COATING SYSTEMS FOR STEEL:

A. Exposed Steel, and Support Steel:

1. System Type: Zinc/ Inorganic Hybrid Water-Based/Fluoropolymer.
2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: DFT 2.5 to 3.5 mils. or 289 to 404 SF^2/gal.
4. Intermediate Coat: DFT 3.0 to 4.0 mils. or 401 to 535 SF^2/gal.
5. Finish Coat: DFT 2.0 to 3.0 mils. or 321 to 481 SF^2/gal.

6. Total DFT: 7.5 to 10.5 mils.
7. Finish Color: As selected by Architect from manufacturer's standard colors.

END OF SECTION 099600

APPENDIX A
HAZARDOUS MATERIAL REPORT

Pre-Renovation
Asbestos-Containing Materials
and PCB Inspection Report

OF THE:

Cattaraugus County Little Valley County Center and Jail Roof Replacement
301 Court Street
Little Valley, New York 14755
Project No. 3076 – XX
SET 2992

PREPARED BY:

SIENNA
ENVIRONMENTAL TECHNOLOGIES
350 Elmwood Avenue Buffalo, New York 14222
ph: 716.332.3134 www.siennaet.com

PREPARED FOR:

Wendel
535 Washington Street
Buffalo, New York 14203

CONDITIONS AS OF:

March 6, 2017

SIENNA
ENVIRONMENTAL TECHNOLOGIES

Summary Tabulation

1. Introduction

2. Asbestos-Containing Materials Inspection

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2.2 Executive Summary
2.3A Confirmed Asbestos-Containing Materials
2.3B Confirmed Non-Asbestos Containing Materials
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3. PCB Inspection

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3.2B Summary of PCB-Containing Materials

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A General Conditions of Inspection
B Certifications and Licenses
C Chains of Custody and Laboratory Reports
D Asbestos and PCB Sample Floor Plans
E Site Photographs for Asbestos-Containing Materials
F Summary of Inspected Functional Spaces

1. Introduction

Sienna Environmental Technologies (Sienna) was retained by Wendel to perform an inspection of Cattaraugus County Little Valley County Center and Jail Roofs, located at 301 Court Street in Little Valley, New York to determine the presence of asbestos-containing materials and exterior PCB-contaminated caulks, glazings and sealants prior to work associated with the Roof Replacement project.

The inspection was conducted on March 6, 2017.

The scope of inspection work provided is as indicated in the email chain for Inspection Services dated February 28, 2017 and includes the following:

- Perform an asbestos-containing and PCB-contaminated materials inspection of 8 EPDM roof fields and curbs of the Cattaraugus County Little Valley County Center and Jail.

Sienna's scope of inspection work was altered from the original scope while on-site with the client per the following:

- Roof 8, the east lower roof/awning, was removed from the scope of work by the client as it appeared to be in good condition on the day of the inspection and would not be replaced.
- Inspection of interior spaces, specifically those below roof drains, was not conducted. It was determined by the client that the roof drains will not be removed.

Sienna was charged with conducting the following tasks for this project:

1. Conducting an asbestos inspection in accordance with all applicable regulations,
2. Sampling exterior caulks, glazings, and sealants for PCB contamination in accordance with all applicable regulations and guidelines, and
3. Providing a summary report of findings.

This report is generated for the exclusive use of the client and is not designed to serve as a specification for abatement. The owner is strongly encouraged to contract with a consultant having a current Asbestos Project Designer Certificate as issued by New York State Department of Labor for the preparation of contract specifications, work plans, and/or drawings prior to requesting bids for the abatement or removal of the materials identified in this report.

2. Asbestos-Containing Materials Inspection

2.1 Methodology

All asbestos inspection work performed by Sienna Environmental Technologies was conducted in accordance with applicable regulations including New York State Department of Labor standards 12 NYCRR Part 56, National Emission Standards for Hazardous Air Pollutants (NESHAPS), the Asbestos Hazard Emergency Response Act, and Occupational Safety and Health Administration regulations. All Sienna Environmental Technologies' personnel assigned to conduct inspections have completed the Environmental Protection Agency (EPA) required training and New York State Department of Labor Division of Safety and Health certification program.

Based on the functional spaces and homogeneous areas (materials uniform in color or texture) identified by Sienna, samples of suspect materials were collected. Techniques used for sample collection were designed to minimize damage to suspected areas, reduce any potential for fiber release, and ensure the safety of the inspector and building occupants.

Samples were analyzed using Polarized Light Microscopy (PLM) in accordance with NYS DOH ELAP Item #198.1 or #198.6. For materials classified as non-friable organically bound materials (NOBs) that were analyzed as equal to or less than 1% asbestos by PLM, additional analysis was performed under Transmission Electron Microscopy (TEM) in accordance with NYS DOH ELAP Item #198.4. The results of this analysis confirmed whether or not a suspect material actually contained asbestos. The confirmed materials are listed in **Section 2.3A Confirmed Asbestos-Containing Materials.**

Although the report is a comprehensive analysis of the asbestos inspection work performed, it would be helpful to review all applicable federal, state and local rules, laws and regulations regarding the handling and treatment of asbestos-containing materials (ACM). The following is a list of suggested reading and information sources relating to asbestos:

- New York State Department of Labor Industrial Code Rule 56
- Occupational Safety and Health Administration
- Environmental Protection Agency Rule CFR 763.86 Asbestos Hazard Emergency Response Act
- Environmental Protection Agency Rule 40 CFR, Chapter 61, Subpart M of the National Emission Standards for Hazardous Air Pollutants (NESHAPS)

2.2 Executive Summary

The asbestos inspection included identification, sampling, analysis, and quantification of suspect materials that may be disturbed by the project. Copies of all laboratory analysis reports and chains of custody listing locations of sample collection are located in Appendix C.

2.3A Confirmed Asbestos-Containing Materials

The following materials have been sampled and analyzed by current EPA AHERA and ELAP protocols and have been proven to contain greater than 1% asbestos. By definition these materials are asbestos-containing materials. The location, condition and quantity of each asbestos-containing material are listed on Table 2.3C. Materials containing trace amounts (equal to 1% or less) of asbestos are subject to OSHA asbestos regulations. Refer to laboratory analysis in Appendix C for sampling results.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
600	Grey Caulk	Photo 1 / Typical at Doors, louvers, windows, expansion seams, and counter flashing.
603	Coping Stone Caulk	Photo 2
606	Window Glazing Compound	Photo 3
ROOFING (700s)		
710	Roofing Cement	Photo 4

2.3B Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
601	White Termination Caulk	N/A
602	Black Termination Caulk	N/A
604	Green/Tan Sealant	N/A
605	Roof Vent Caulk-White	N/A
607	AHU Stand Sealant	N/A
608	Antenna Putty	N/A
ROOFING (700s)		
700.2	Felt Backer	Homogeneous to 701.2, 702.2, 703.2
700.4	Felt Backer with Tar	Homogeneous to 701.4, 702.4, 703.4
700.6	Tar Saturated Felt	Homogeneous to 701.6, 702.6, 703.6
701.2	Felt Backer	Homogeneous to 700.2
701.4	Felt Backer with Tar	Homogeneous to 700.4
701.6	Tar Saturated Felt	Homogeneous to 700.6
702.2	Felt Backer	Homogeneous to 700.2
702.4	Felt Backer with Tar	Homogeneous to 700.4
702.6	Tar Saturated Felt	Homogeneous to 700.6
703.2	Felt Backer	Homogeneous to 700.2
703.4	Felt Backer with Tar	Homogeneous to 700.4
703.6	Tar Saturated Felt	Homogeneous to 700.6
704.2	Felt Backer	Homogeneous to 705.2
705.2	Felt Backer	Homogeneous to 704.2
708	Office Building Flashing Tar	N/A
709	Roof Repair Tar	N/A
711	Original Jail Flashing Tar	N/A

2.3C Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection for asbestos-containing materials and were verified or assumed to contain asbestos. Materials containing trace amounts (equal to or less than 1%) of asbestos are subject to OSHA asbestos regulations. Refer to laboratory analysis in Appendix C for sampling results. Refer to sample location maps located in Appendix D for enumeration of functional spaces.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
R-1-Lower Roof	600	Grey Caulk	Yes	12 SF	I	Non-friable
	603	Coping Stone Caulk	Yes	164 SF	D	Non-friable
	710	Roofing Cement	Yes	5 SF	I	Non-friable
R-2-East Upper Roof	600	Grey Caulk	Yes	2 SF	D	Non-friable
	710	Roofing Cement	Yes	5 SF	I	Non-friable
R-3-Center Upper Roof	710	Roofing Cement	Yes	1 SF	I	Non-friable
R-4-West Upper Roof	600	Grey Caulk	Yes	4 SF	I	Non-friable
R-5-Original Jail Roof	600	Grey Caulk	Yes	12 SF	I	Non-friable
	606	Window Glazing Compound	Yes	15 SF	I	Non-friable
	710	Roofing Cement	Yes	21 SF	I	Non-friable
R-7-Jail Addition Roof	600	Grey Caulk	Yes	3 SF	I	Non-friable
	606	Window Glazing Compound	Yes	3 SF	I	Non-friable

Condition notes: I = Intact, D = Damaged, SD = Significantly Damaged

3. PCB Inspection

3.1 Methodology

Sienna Environmental Technologies identified suspect exterior PCB-containing caulk, glazing, or other sealant on building components that are included in the scope of work.

The inspection was performed in conformance with all applicable federal, state and local rules, laws, regulations and/or guidelines. All personnel assigned to conduct inspection wore personal protective equipment in accordance with standard OSHA protocols. The US EPA's specified limit for PCB content/concentration is 50 ppm (parts per million) or 50 mg/kg (milligrams per kilogram) by weight.

The laboratory used for bulk sample analysis was approved by NYS ELAP and AIHA or NVLAP and performed laboratory analysis by EPA Method 8082.

The laboratory results are reported in mg/Kg (milligrams per kilogram) which equates to ppm (parts per million). Copies of all laboratory analysis reports and chains of custody listing locations of sample collection are located in Appendix C.

3.2A Suspect PCB-Containing Materials

The inspection revealed the following materials as suspect exterior PCB-containing caulking, glazing, or sealant materials:

HAN Number	Description	Results Above EPA Regulatory Limit (50 ppm)
MISCELLANEOUS (600s)		
600	Grey Caulk	No
601	White Termination Caulk	No
602	Black Termination Caulk	No
603	Coping Stone Caulk	No
604	Green/Tan Sealant	No
605	Roof Vent Caulk-White	No
606	Window Glazing Compound	No
607	AHU Stand Sealant	No
608	Antenna Putty	No

3.2B Summary of PCB-contaminated Materials

Analysis indicates PCBs were ***NOT*** detected above the reporting limit in the suspected PCB-containing materials and thus not considered, not regulated as, a PCB containing material.

Appendix A General Conditions of Inspection

1. Sienna Environmental Technologies, LLC neither accepts nor implies any liability for the implementation of the recommendations found within this report.

2. This inspection was limited to areas accessible to the inspector. Sienna Environmental Technologies, LLC neither accepts nor implies any liability for hazardous materials that may be present in other areas of the building.

3. The results of the laboratory analytical reports that may be contained herein are the product of the knowledge, experience and expertise of the laboratory retained to perform such services. Sienna Environmental Technologies neither accepts nor implies any liability for sample analysis reports compiled by others.

4. This report is based on the condition and contents present at the site on the day of the inspection. Sienna Environmental Technologies, LLC is not liable for materials, chemicals or other substances of concern that may have been removed from the site, cleaned or disposed of prior to the inspection date or subsequent to that date.

5. An inspection for Asbestos-Containing Materials, Lead-Based Paint or PCB-Containing Materials relies heavily upon identification of homogeneous areas, with subsequent sampling and laboratory analysis determined by: the quantity of surfaces identified, generally accepted inspection protocols, regulatory requirements, and the inspector's judgment. Specific sample locations are determined with the objective of selecting representative samples. As with any type of sampling, the possibility of obtaining a false positive or false negative does exist, is inherent in the sampling process, and can at times result from the uneven distribution of target analytes within the suspect material. The comprehensive inspection protocol developed and utilized by Sienna Environmental Technologies, LLC attempts to minimize the risk of a false positive or false negative result. However, the client is advised that the risk of false positives or false negatives cannot be completely eliminated.

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Appendix B Certifications and Licenses

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Sienna Environmental Technologies LLC

350 Elmwood Avenue

Buffalo, NY 14222

FILE NUMBER: 00-1037
LICENSE NUMBER: 29432
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 02/16/2017
EXPIRATION DATE: 02/28/2018

Duly Authorized Representative – Susanne Kelley:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

JOSHUA J DUFFY
CLASS(EXPIRES)
C ATEC(11/17) D INSP(11/17)
H PM (11/17)

CERT# 13-13078
DMV# 102128202

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 004245893 54

EYES BRO
HAIR BRO
HGT 5' 11"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2017
Issued April 01, 2016

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

DR. THOMAS R. MCKEE
AMERISCI RICHMOND
13635 GENITO RD
MIDLOTHIAN, VA 23112

NY Lab Id No: 10984

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual

NEW YORK STATE | Department of Health

Serial No.: 54118

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2017
Issued April 01, 2016

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. JULIE DICKERSON
ENVIRONMENTAL HAZARDS SERVICES, LLC
7469 WHITEPINE ROAD
N. CHESTERFIELD, VA 23237

NY Lab Id No: 11714

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2003) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Characteristic Testing	
TCLP	EPA 1311
Metals I	
Barium, Total	EPA 6010C
Cadmium, Total	EPA 6010C
Chromium, Total	EPA 6010C
Lead, Total	EPA 6010C
	EPA 7000B
Silver, Total	EPA 6010C
Metals II	
Arsenic, Total	EPA 6010C
Mercury, Total	EPA 7471B
Selenium, Total	EPA 6010C
Polychlorinated Biphenyls	
PCB-1016	EPA 8082A
PCB-1221	EPA 8082A
PCB-1232	EPA 8082A
PCB-1242	EPA 8082A
PCB-1248	EPA 8082A
PCB-1254	EPA 8082A
PCB-1260	EPA 8082A
PCBs in Oil	EPA 8082A
Sample Preparation Methods	
	EPA 3580A
	EPA 3050B

Sample Preparation Methods	
	EPA 3550C
	EPA 3540C

NEW YORK STATE | Department of Health

Serial No.: 54411

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NELAP RECOGNIZED TNI ACCREDITATION BODY

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Appendix C Chains of Custody and Laboratory Reports

Please Reply To:

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

FACSIMILE TELECOPY TRANSMISSION

To:	Susanne Kelley Sienna Environmental Technologies, LLC	**From:**	T. Brian Keith
		AmeriSci Job #:	117031353
Fax #:		**Subject:**	ELAP-PLM/TEM 3 day Results
		Client Project:	SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And
Email:	labresults@siennaet.com		

Date: Saturday, March 11, 2017
Time: 19:41:59
Comments:

Number of Pages: _____ (including cover sheet)

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Sienna Environmental Technologies, LL
Attn: Susanne Kelley
350 Elmwood Ave

Buffalo, NY 14222

Date Received 03/08/17 **AmeriSci Job #** 117031353
Date Examined 03/11/17 **P.O. #**
ELAP # 10984 **Page** 1 **of** 8
RE: SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-600-1	117031353-01	*Yes*	1.5 %
600 **Location:** Grey Caulk; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 1.5 %			
Other Material: Acid Sensitive 1.6 %, Heat Sensitive 70.4 %, Non-fibrous 26.5 %			
Comment: Heat Sensitive (organic): 70.4%; Acid Soluble (inorganic): 1.6%; Inert (Non-asbestos): 26.4%			
030617-2992-600-2	117031353-02		NA/PS
600 **Location:** Grey Caulk; R-5			
Analyst Description: Bulk Material			
Asbestos Types:			
Other Material:			
Comment: Heat Sensitive (organic): 69.2%; Acid Soluble (inorganic): 1.2%; Inert (Non-asbestos): 29.5%			
030617-2992-601-1	117031353-03	*No*	NAD
601 **Location:** White Termination Caulk; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 30.8 %, Heat Sensitive 40.5 %, Non-fibrous 28.7 %			
Comment: Heat Sensitive (organic): 40.6%; Acid Soluble (inorganic): 30.8%; Inert (Non-asbestos): 28.7%			
030617-2992-601-2	117031353-04	*No*	NAD
601 **Location:** White Termination Caulk; R-5			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 35.8 %, Heat Sensitive 53.9 %, Non-fibrous 10.3 %			
Comment: Heat Sensitive (organic): 53.9%; Acid Soluble (inorganic): 35.8%; Inert (Non-asbestos): 10.3%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-602-1 602	117031353-05 **Location:** Black Termination Caulk; R-2	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 11.8 %, Heat Sensitive 38.4 %, Non-fibrous 49.8 % **Comment:** Heat Sensitive (organic): 38.4%; Acid Soluble (inorganic): 11.8%; Inert (Non-asbestos): 49.8%			
030617-2992-602-2 602	117031353-06 **Location:** Black Termination Caulk; R-5	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 29 %, Heat Sensitive 43.2 %, Non-fibrous 27.8 % **Comment:** Heat Sensitive (organic): 43.2%; Acid Soluble (inorganic): 29.0%; Inert (Non-asbestos): 27.8%			
030617-2992-603-1 603	117031353-07 **Location:** Coping Stone Caulk; R-1	***Yes***	2.1 % (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 2.1 % **Other Material:** Acid Sensitive 22.3 %, Heat Sensitive 64.4 %, Non-fibrous 11.2 % **Comment:** Heat Sensitive (organic): 64.4%; Acid Soluble (inorganic): 22.3%; Inert (Non-asbestos): 11.2%			
030617-2992-603-2 603	117031353-08 **Location:** Coping Stone Caulk; R-1		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 67.1%; Acid Soluble (inorganic): 1.2%; Inert (Non-asbestos): 31.7%			
030617-2992-604-1 604	117031353-09 **Location:** Green/Tan Sealant; R-2	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 33.1 %, Heat Sensitive 64.6 %, Non-fibrous 2.3 % **Comment:** Heat Sensitive (organic): 64.6%; Acid Soluble (inorganic): 33.1%; Inert (Non-asbestos): 2.3%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-604-2	117031353-10	*No*	NAD
604	**Location:** Green/Tan Sealant; R-3		(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 8.6 %, Heat Sensitive 77.2 %, Non-fibrous 14.2 %			
Comment: Heat Sensitive (organic): 77.2%; Acid Soluble (inorganic): 8.5%; Inert (Non-asbestos): 14.2%			
030617-2992-605-1	117031353-11	*No*	NAD
605	**Location:** Roof Vent Caulk - White; R-5		(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 21.5 %, Heat Sensitive 43.8 %, Non-fibrous 34.7 %			
Comment: Heat Sensitive (organic): 43.8%; Acid Soluble (inorganic): 21.5%; Inert (Non-asbestos): 34.7%			
030617-2992-605-2	117031353-12	*Yes*	Trace (<0.25 % pc)
605	**Location:** Roof Vent Caulk - White; R-5		(EPA 400 PC) by C. David Mintz on 03/11/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile <0.25 % pc			
Other Material: Acid Sensitive 74.4 %, Heat Sensitive 18.7 %, Non-fibrous 6.8 %			
Comment: Heat Sensitive (organic): 18.7%; Acid Soluble (inorganic): 74.4%; Inert (Non-asbestos): 6.8%			
030617-2992-606-1	117031353-13	*Yes*	Trace (<0.25 % pc)
606	**Location:** Window Glazing Compound; R-5		(EPA 400 PC) by C. David Mintz on 03/11/17
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile <0.25 % pc			
Other Material: Acid Sensitive 86.7 %, Heat Sensitive 8.9 %, Non-fibrous 4.4 %			
Comment: Heat Sensitive (organic): 8.9%; Acid Soluble (inorganic): 86.6%; Inert (Non-asbestos): 4.4%			
030617-2992-606-2	117031353-14	*No*	NAD
606	**Location:** Window Glazing Compound; R-5		(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Gray, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 53.4 %, Heat Sensitive 34.5 %, Non-fibrous 12.1 %			
Comment: Heat Sensitive (organic): 34.5%; Acid Soluble (inorganic): 53.4%; Inert (Non-asbestos): 12.1%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-607-1 607 **Location:** AHU Stand Sealant; R-7	117031353-15	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Gray, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 53.1 %, Heat Sensitive 33.9 %, Non-fibrous 13 %
Comment: Heat Sensitive (organic): 33.9%; Acid Soluble (inorganic): 53.1%; Inert (Non-asbestos): 13.0%

030617-2992-607-2 607 **Location:** AHU Stand Sealant; R-7	117031353-16	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Gray, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 51.3 %, Heat Sensitive 41.4 %, Non-fibrous 7.3 %
Comment: Heat Sensitive (organic): 41.4%; Acid Soluble (inorganic): 51.3%; Inert (Non-asbestos): 7.3%

030617-2992-608-1 608 **Location:** Antenna Putty; R-7	117031353-17	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Gray, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 48.8 %, Heat Sensitive 39.9 %, Non-fibrous 11.3 %
Comment: Heat Sensitive (organic): 39.9%; Acid Soluble (inorganic): 48.8%; Inert (Non-asbestos): 11.3%

030617-2992-608-2 608 **Location:** Antenna Putty; R-7	117031353-18	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Gray, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 3.5 %, Heat Sensitive 84.4 %, Non-fibrous 12.1 %
Comment: Heat Sensitive (organic): 84.4%; Acid Soluble (inorganic): 3.5%; Inert (Non-asbestos): 12.1%

030617-2992-700.2-1 700.2 **Location:** Felt Backer; R-1	117031353-19	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Black/Tan, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 2.1 %, Heat Sensitive 88.5 %, Non-fibrous 9.4 %
Comment: Heat Sensitive (organic): 88.5%; Acid Soluble (inorganic): 2.1%; Inert (Non-asbestos): 9.4%

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-700.2-2	117031353-20	*No*	NAD
700.2 **Location:** Felt Backer; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black/Tan, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 0.7 %, Heat Sensitive 93.1 %, Non-fibrous 6.2 %			
Comment: Heat Sensitive (organic): 93.1%; Acid Soluble (inorganic): 0.7%; Inert (Non-asbestos): 6.2%			
030617-2992-700.4-1	117031353-21	*No*	NAD
700.4 **Location:** Felt Backer With Tar; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black/Tan, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 0.8 %, Heat Sensitive 91.2 %, Non-fibrous 8 %			
Comment: Heat Sensitive (organic): 91.2%; Acid Soluble (inorganic): 0.8%; Inert (Non-asbestos): 8.0%			
030617-2992-700.4-2	117031353-22	*No*	NAD
700.4 **Location:** Felt Backer With Tar; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black/Tan, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 0 %, Heat Sensitive 96.1 %, Non-fibrous 3.9 %			
Comment: Heat Sensitive (organic): 96.1%; Inert (Non-asbestos): 3.9%			
030617-2992-700.6-1	117031353-23	*No*	NAD
700.6 **Location:** Tar Saturated Felt; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 1.5 %, Heat Sensitive 93 %, Non-fibrous 5.5 %			
Comment: Heat Sensitive (organic): 92.9%; Acid Soluble (inorganic): 1.5%; Inert (Non-asbestos): 5.5%			
030617-2992-700.6-2	117031353-24	*No*	NAD
700.6 **Location:** Tar Saturated Felt; R-1			(by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Tan/Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Acid Sensitive 2.6 %, Heat Sensitive 84.6 %, Non-fibrous 12.8 %			
Comment: Heat Sensitive (organic): 84.5%; Acid Soluble (inorganic): 2.6%; Inert (Non-asbestos): 12.8%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-704.2-1 704.2	117031353-25 **Location:** Felt Backer; R-5	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Tan/Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 1.4 %, Heat Sensitive 82 %, Non-fibrous 16.6 %
Comment: Heat Sensitive (organic): 82.0%; Acid Soluble (inorganic): 1.4%; Inert (Non-asbestos): 16.6%

030617-2992-704.2-2 704.2	117031353-26 **Location:** Felt Backer; R-5	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Black/Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 0.7 %, Heat Sensitive 83.6 %, Non-fibrous 15.7 %
Comment: Heat Sensitive (organic): 83.6%; Acid Soluble (inorganic): 0.7%; Inert (Non-asbestos): 15.7%

030617-2992-708-1 708	117031353-27 **Location:** Office Building Flashing Tar; R-1 Chimney	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 0.5 %, Heat Sensitive 91.1 %, Non-fibrous 8.4 %
Comment: Heat Sensitive (organic): 91.1%; Acid Soluble (inorganic): 0.5%; Inert (Non-asbestos): 8.3%

030617-2992-708-2 708	117031353-28 **Location:** Office Building Flashing Tar; Front R-1	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 30.2 %, Heat Sensitive 52.1 %, Non-fibrous 17.7 %
Comment: Heat Sensitive (organic): 52.1%; Acid Soluble (inorganic): 30.2%; Inert (Non-asbestos): 17.7%

030617-2992-709-1 709	117031353-29 **Location:** Roof Repair Tar; R-1	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17

Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Acid Sensitive 8.8 %, Heat Sensitive 52.2 %, Non-fibrous 39 %
Comment: Heat Sensitive (organic): 52.2%; Acid Soluble (inorganic): 8.8%; Inert (Non-asbestos): 39.0%

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
030617-2992-709-2 709	117031353-30 **Location:** Roof Repair Tar; R-1	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 12.4 %, Heat Sensitive 52.9 %, Non-fibrous 34.7 % **Comment:** Heat Sensitive (organic): 52.9%; Acid Soluble (inorganic): 12.4%; Inert (Non-asbestos): 34.7%			
030617-2992-710-1 710	117031353-31 **Location:** Roofing Cement; R-2	***Yes***	8.8 % (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 8.8 % **Other Material:** Acid Sensitive 20 %, Heat Sensitive 38 %, Non-fibrous 33.2 % **Comment:** Heat Sensitive (organic): 38.1%; Acid Soluble (inorganic): 20.0%; Inert (Non-asbestos): 33.2%			
030617-2992-710-2 710	117031353-32 **Location:** Roofing Cement; R-5		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 56.3%; Acid Soluble (inorganic): 3.6%; Inert (Non-asbestos): 40.2%			
030617-2992-711-1 711	117031353-33 **Location:** Original Jail Flashing Tar; R-5	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 0 %, Heat Sensitive 99.8 %, Non-fibrous 0.2 % **Comment:** Heat Sensitive (organic): 99.8%; Inert (Non-asbestos): 0.2%			
030617-2992-711-2 711	117031353-34 **Location:** Original Jail Flashing Tar; R-5	***No***	NAD (by NYS ELAP 198.6) by C. David Mintz on 03/11/17
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Acid Sensitive 0.6 %, Heat Sensitive 99.2 %, Non-fibrous 0.2 % **Comment:** Heat Sensitive (organic): 99.2%; Acid Soluble (inorganic): 0.6%; Inert (Non-asbestos): 0.2%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

Reporting Notes:

Analyzed by: C. David Mintz TSK for COM Date 3-11-17

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: TSK

Client Name: Sienna Environmental Technologies, LLC

Table I
Summary of Bulk Asbestos Analysis Results

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	030617-2992-600-1	600	0.141	70.4	1.6	27.9	Chrysotile 1.5	NA
Location:	Grey Caulk; R-1							
02	030617-2992-600-2	600	0.447	69.2	1.2	29.5	NA/PS	NA
Location:	Grey Caulk; R-5							
03	030617-2992-601-1	601	0.158	40.6	30.8	28.7	NAD	NAD
Location:	White Termination Caulk; R-1							
04	030617-2992-601-2	601	0.097	53.9	35.8	10.3	NAD	NAD
Location:	White Termination Caulk; R-5							
05	030617-2992-602-1	602	0.199	38.4	11.8	49.8	NAD	NAD
Location:	Black Termination Caulk; R-2							
06	030617-2992-602-2	602	0.267	43.2	29.0	27.8	NAD	NAD
Location:	Black Termination Caulk; R-5							
07	030617-2992-603-1	603	0.366	64.4	22.3	11.2	Chrysotile 2.1	NA
Location:	Coping Stone Caulk; R-1							
08	030617-2992-603-2	603	0.191	67.1	1.2	31.7	NA/PS	NA
Location:	Coping Stone Caulk; R-1							
09	030617-2992-604-1	604	0.187	64.6	33.1	2.3	NAD	NAD
Location:	Green/Tan Sealant; R-2							
10	030617-2992-604-2	604	0.091	77.2	8.5	14.2	NAD	NAD
Location:	Green/Tan Sealant; R-3							
11	030617-2992-605-1	605	0.095	43.8	21.5	34.7	NAD	NAD
Location:	Roof Vent Caulk - White; R-5							
12	030617-2992-605-2	605	0.154	18.7	74.4	6.8	Chrysotile <0.25	Chrysotile Trace
Location:	Roof Vent Caulk - White; R-5							
13	030617-2992-606-1	606	0.084	8.9	86.6	3.3	Chrysotile <0.25	Chrysotile 1.1
Location:	Window Glazing Compound; R-5							
14	030617-2992-606-2	606	0.159	34.5	53.4	12.1	NAD	NA/PS
Location:	Window Glazing Compound; R-5							
15	030617-2992-607-1	607	0.225	33.9	53.1	13.0	NAD	NAD
Location:	AHU Stand Sealant; R-7							
16	030617-2992-607-2	607	0.213	41.4	51.3	7.3	NAD	NAD
Location:	AHU Stand Sealant; R-7							

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	030617-2992-608-1	608	0.200	39.9	48.8	11.3	NAD	NAD
Location:	Antenna Putty; R-7							
18	030617-2992-608-2	608	0.095	84.4	3.5	12.1	NAD	NAD
Location:	Antenna Putty; R-7							
19	030617-2992-700.2-1	700.2	0.043	88.5	2.1	9.4	NAD	NAD
Location:	Felt Backer; R-1							
20	030617-2992-700.2-2	700.2	0.294	93.1	0.7	6.2	NAD	NAD
Location:	Felt Backer; R-1							
21	030617-2992-700.4-1	700.4	0.132	91.2	0.8	8.0	NAD	NAD
Location:	Felt Backer With Tar; R-1							
22	030617-2992-700.4-2	700.4	0.062	96.1	0.0	3.9	NAD	NAD
Location:	Felt Backer With Tar; R-1							
23	030617-2992-700.6-1	700.6	0.156	92.9	1.5	5.5	NAD	NAD
Location:	Tar Saturated Felt; R-1							
24	030617-2992-700.6-2	700.6	0.076	84.5	2.6	12.8	NAD	NAD
Location:	Tar Saturated Felt; R-1							
25	030617-2992-704.2-1	704.2	0.143	82.0	1.4	16.6	NAD	NAD
Location:	Felt Backer; R-5							
26	030617-2992-704.2-2	704.2	0.252	83.6	0.7	15.7	NAD	NAD
Location:	Felt Backer; R-5							
27	030617-2992-708-1	708	0.202	91.1	0.5	8.3	NAD	NAD
Location:	Office Building Flashing Tar; R-1 Chimney							
28	030617-2992-708-2	708	0.261	52.1	30.2	17.7	NAD	NAD
Location:	Office Building Flashing Tar; Front R-1							
29	030617-2992-709-1	709	0.614	52.2	8.8	39.0	NAD	NAD
Location:	Roof Repair Tar; R-1							
30	030617-2992-709-2	709	0.855	52.9	12.4	34.7	NAD	NAD
Location:	Roof Repair Tar; R-1							
31	030617-2992-710-1	710	0.122	38.1	20.0	33.2	Chrysotile 8.8	NA
Location:	Roofing Cement; R-2							
32	030617-2992-710-2	710	0.295	56.3	3.6	40.2	NA/PS	NA
Location:	Roofing Cement; R-5							

See Reporting notes on last page

Client Name: Sienna Environmental Technologies, LLC

Table I
Summary of Bulk Asbestos Analysis Results

SET 2992; Wendel Jen Hill; Cattaraugous County Little Valley County Center And Jail, 301 Court Street, Little Valley, New York 14755

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
33	030617-2992-711-1	711	0.104	99.8	0.0	0.2	NAD	NAD
Location:	Original Jail Flashing Tar; R-5							
34	030617-2992-711-2	711	0.157	99.2	0.6	0.2	NAD	NAD
Location:	Original Jail Flashing Tar; R-5							

Reviewed by: _____ Date Reviewed: 3-11-17 Analyzed By: T. Brian Keith _____ Date Analyzed: 3/11/2017

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%;
PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984);
TEM analysis by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984);

** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

Chain of Custody Document

117031353

SIENNA
ENVIRONMENTAL TECHNOLOGIES
350 Elmwood Ave. • Buffalo, NY 14222
Ⓟ 716.332.3134 Ⓕ 716.332.3136

Fax/Email Report to: Labresults@Siennaet.com

Client/Contact:	Wendel Jen Hill	**Turn Around Time** (Bordered/Circled) RUSH 24 Hour 48 Hour
Building/Location:	Cattaraugous County Little Valley County Center and Jail 301 Court Street, Little Valley, New York 14755	
Job #: SET 2992	**Total # Samples:** 34	72 Hour 5 Day

PLM: X **TEM:** X **AAS:** **Other:**

Sample #				Description of Sample	Location of Sample	Notes
Date	Job	HAN	ID#			
03/06/17	2992	600	1	Grey Caulk	R-1	
03/06/17	2992	600	2	Grey Caulk	R-5	
03/06/17	2992	601	1	White Termination Caulk	R-1	
03/06/17	2992	601	2	White Termination Caulk	R-5	
03/06/17	2992	602	1	Black Termination Caulk	R-2	
03/06/17	2992	602	2	Black Termination Caulk	R-5	
03/06/17	2992	603	1	Coping Stone Caulk	R-1	
03/06/17	2992	603	2	Coping Stone Caulk	R-1	
03/06/17	2992	604	1	Green/Tan Sealant	R-2	
03/06/17	2992	604	2	Green/Tan Sealant	R-3	
03/06/17	2992	605	1	Roof Vent Caulk-White	R-5	
03/06/17	2992	605	2	Roof Vent Caulk-White	R-5	
03/06/17	2992	606	1	Window Glazing Compound	R-5	
03/06/17	2992	606	2	Window Glazing Compound	R-5	
03/06/17	2992	607	1	AHU Stand Sealant	R-7	
03/06/17	2992	607	2	AHU Stand Sealant	R-7	
03/06/17	2992	608	1	Antenna Putty	R-7	
03/06/17	2992	608	2	Antenna Putty	R-7	
03/06/17	2992	700.2	1	Felt Backer	R-1	
03/06/17	2992	700.2	2	Felt Backer	R-1	
03/06/17	2992	700.4	1	Felt Backer with Tar	R-1	
03/06/17	2992	700.4	2	Felt Backer with Tar	R-1	

Notes:

Yes	No	
X		Negative PLM to TEM per ELAP protocols
X		Positive Stop by HAN.ID#
	X	Layered analysis is expected - Sample HAN-ID# :

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By

Sampled By: Josh Duffy Date: 3/6/2017

Relinquished By: Alyssa Hessler Date: 3/7/2017

Received By: Date:

Chain of Custody Document

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ENVIRONMENTAL TECHNOLOGIES

350 Elmwood Ave. • Buffalo, NY 14222
Ⓟ 716.332.3134 Ⓕ 716.332.3136

Fax/Email Report to: Labresults@Siennaet.com

Client/Contact:	Wendel
	Jen Hill
Building/Location:	Cattaraugous County Little Valley County Center and Jail
	301 Court Street, Little Valley, New York 14755
Job #:	SET 2992
Total # Samples:	34

Turn Around Time
(Bordered/Circled)

RUSH 24 Hour 48 Hour
72 Hour 5 Day

PLM: X **TEM:** X **AAS:** _____ **Other:** _____

Sample #				Description of Sample	Location of Sample	Notes
Date	Job	HAN	ID#			
03/06/17	2992	700.6	1	Tar Saturated Felt	R-1	
03/06/17	2992	700.6	2	Tar Saturated Felt	R-1	
03/06/17	2992	704.2	1	Felt Backer	R-5	
03/06/17	2992	704.2	2	Felt Backer	R-5	
03/06/17	2992	708	1	Office Building Flashing Tar	R-1 Chimney	
03/06/17	2992	708	2	Office Building Flashing Tar	Front R-1	
03/06/17	2992	709	1	Roof Rapair Tar	R-1	
03/06/17	2992	709	2	Roof Rapair Tar	R-1	
03/06/17	2992	710	1	Roofing Cement	R-2	
03/06/17	2992	710	2	Roofing Cement	R-5	
03/06/17	2992	711	1	Original Jail Flashing Tar	R-5	
03/06/17	2992	711	2	Original Jail Flashing Tar	R-5	

Notes:

Yes	No	
X		Negative PLM to TEM per ELAP protocols
X		Positive Stop by HAN.ID#
	X	Layered analysis is expected - Sample HAN-ID# :

RECEIVED
MAR 08 2017
By

Sampled By: Josh Duffy Date: ~~3/6/2017~~

Relinquished By: Alyssa Hessler Date: 3/7/2017

Received By: _____ Date: _____

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone: 800.347.4010

PCB Bulk Analysis Report

Report Number: 17-03-00951

Client: Sienna Environmental
350 Elmwood Avenue
Buffalo, NY 14222-2204

Received Date: 03/08/2017
Reported Date: 03/15/2017

Project/Test Address: SET 2992; Cattaraugous County Little Valley County Center and Jail; 301 Court Street; Little Valley, New York 14755

Client Number: 33-5983

Fax Number: 716-332-3136

Laboratory Results

Lab Sample Number: 17-03-00951-001
Client Sample Number: 600
Sample Matrix: Caulk
Reporting Limit (mg/kg): 20
Preparation Date: 03/13/2017
Analysis Date: 03/15/2017
Sample Weight (g): 1.026
Narrative ID:

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Lab Sample Number: 17-03-00951-002
Client Sample Number: 601
Sample Matrix: Caulk
Reporting Limit (mg/kg): 9.3
Preparation Date: 03/13/2017
Analysis Date: 03/15/2017
Sample Weight (g): 1.076
Narrative ID:

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<9.3	<9.3	<9.3	<9.3	<9.3	<9.3	<9.3

Lab Sample Number: 17-03-00951-003
Client Sample Number: 602
Sample Matrix: Caulk
Reporting Limit (mg/kg): 20
Preparation Date: 03/13/2017
Analysis Date: 03/15/2017
Sample Weight (g): 1.036
Narrative ID:

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Client Number: 33-5983 Report Number: 17-03-00951

Project/Test Address: SET 2992; Cattaraugous County Little Valley County Center and Jail; 301 Court Street; Little Valley, New York 14755

Lab Sample Number:	17-03-00951-004	Preparation Date:	03/13/2017
Client Sample Number:	603	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.024
Reporting Limit (mg/kg):	20	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Lab Sample Number:	17-03-00951-005	Preparation Date:	03/13/2017
Client Sample Number:	604	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.009
Reporting Limit (mg/kg):	1.0	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Lab Sample Number:	17-03-00951-006	Preparation Date:	03/13/2017
Client Sample Number:	605	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.023
Reporting Limit (mg/kg):	20	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Lab Sample Number:	17-03-00951-007	Preparation Date:	03/13/2017
Client Sample Number:	606	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.058
Reporting Limit (mg/kg):	19	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<19	<19	<19	<19	<19	<19	<19

Lab Sample Number:	17-03-00951-008	Preparation Date:	03/13/2017
Client Sample Number:	607	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.027
Reporting Limit (mg/kg):	20	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Environmental Hazards Services, L.L.C

Client Number: 33-5983 Report Number: 17-03-00951

Project/Test Address: SET 2992; Cattaraugous County Little Valley County Center and Jail; 301 Court Street; Little Valley, New York 14755

Lab Sample Number:	17-03-00951-009	Preparation Date:	03/13/2017
Client Sample Number:	608	Analysis Date:	03/15/2017
Sample Matrix:	Caulk	Sample Weight (g):	1.037
Reporting Limit (mg/kg):	20	Narrative ID:	

Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
<20	<20	<20	<20	<20	<20	<20

Sample Narratives:

Preparation Method: EPA SW846 3540C
Analysis Method: EPA SW846 8082A

Reviewed By Authorized Signatory: Tasha Eaddy

Tasha Eaddy
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. All internal quality control requirements associated with the batch were met, unless otherwise noted. Results represent the analysis of samples submitted by the client. Unless otherwise noted, samples are reported without a dry weight correction. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. Virginia Certification #460172 NY ELAP #11714.

Legend g = gram mg/kg = milligram per kilogram

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350 Elmwood Ave. • Buffalo, NY 14222
Ⓟ 716.332.3134 Ⓕ 716.332.3136

Fax/Email Report to: Labresults@Siennaet.com

Client/Contact:	Wendel
	Jen Hill
Building/Location:	Cattaraugous County Little Valley County Center and Jail
	301 Court Street, Little Valley, New York 14755

Job #: SET 2992 **Total # Samples:** 9

Turn Around Time (Bordered/Circled)

RUSH 24 Hour 48 Hour 72 Hour **5 Day**

PLM: _____ **TEM:** _____ **AAS:** _____ **Other:** PCB 8082

Sample #				Description of Sample	Location of Sample	Notes
Date	Job	HAN	ID#			
03/06/17	2992	600	PCB	Grey Caulk	R-1	
03/06/17	2992	601	PCB	White Termination Caulk	R-5	
03/06/17	2992	602	PCB	Black Termination Caulk	R-5	
03/06/17	2992	603	PCB	Coping Stone Caulk	R-1	
03/06/17	2992	604	PCB	Green/Tan Sealant	R-3	
03/06/17	2992	605	PCB	Roof Vent Caulk-White	R-5	
03/06/17	2992	606	PCB	Window Glazing Compound	R-5	
03/06/17	2992	607	PCB	AHU Stand Sealant	R-7	
03/06/17	2992	608	PCB	Antenna Putty	R-7	

17-03-00951

Due Date:
03/15/2017
(Wednesday)
AE

Notes:

Yes	No	
		Negative PLM to TEM per ELAP protocols
		Positive Stop by HAN.ID#
		Layered analysis is expected - Sample HAN-ID# :

Sampled By: Josh Duffy Date: 3/6/2017

Relinquished By: Alyssa Hessler Date: 3/7/2017

Received By: Thohe Date: 3/8/17 10:

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Appendix D Asbestos and PCB Sample Floor Plans

SIENNA
ENVIRONMENTAL TECHNOLOGIES
350 Elmwood Avenue Buffalo, New York 14222
ph: 716.332.3134 www.siennaet.com

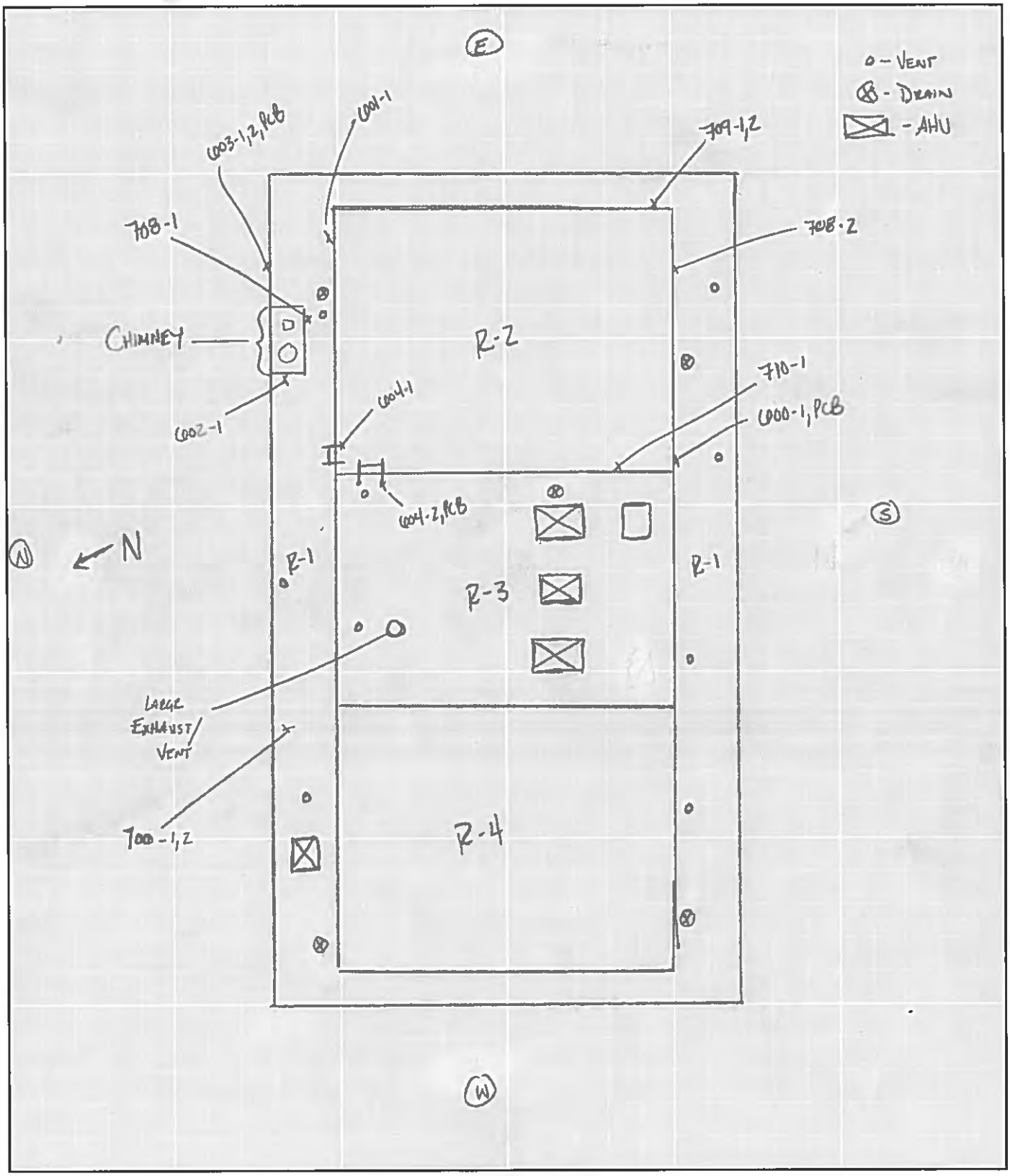
SET #: Date:

Project:

Room: County Center Office Bldg Roofs

Scale:

Visit: ☐ Inspection ☐ Design ☐ Coordination ☐ PM

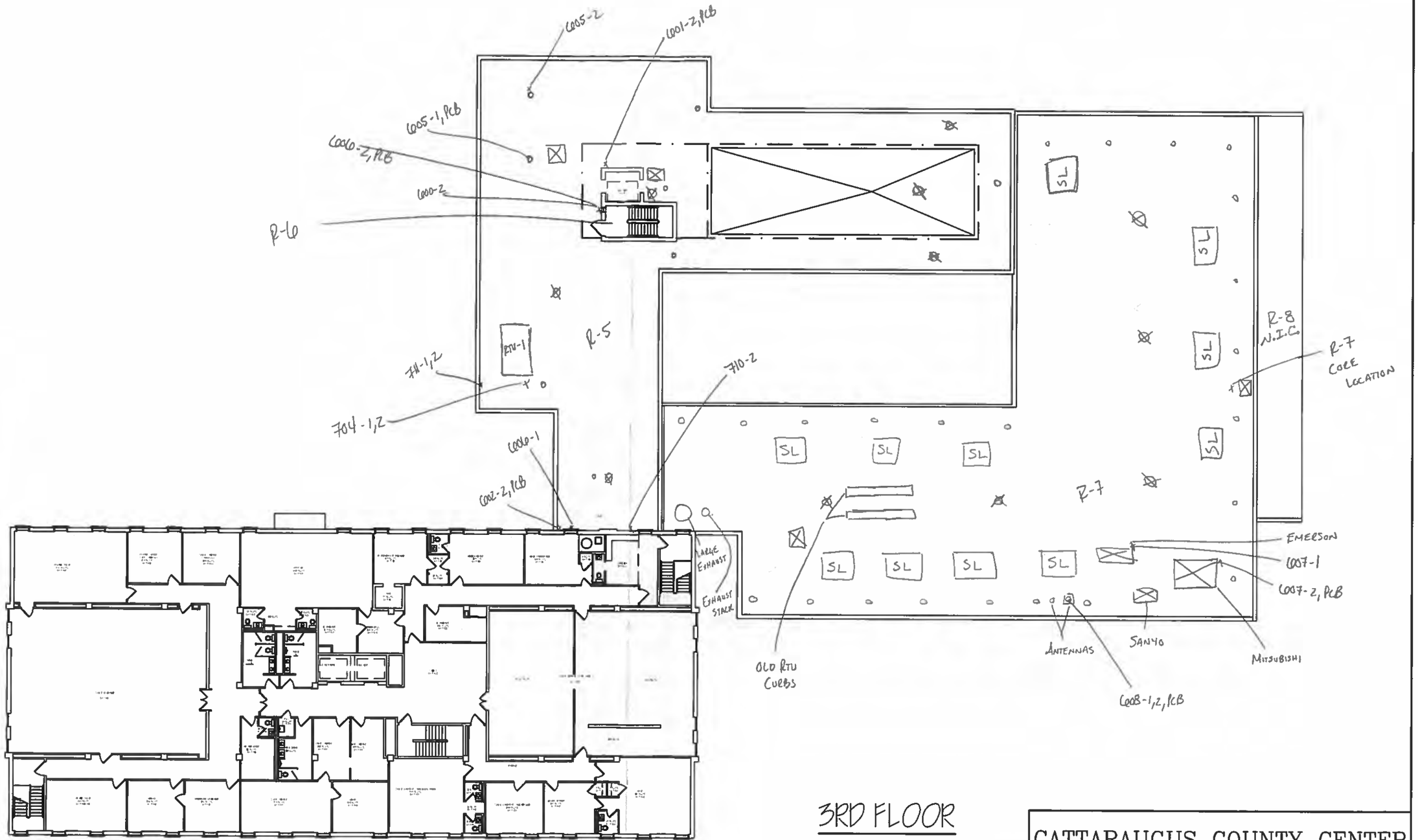


O - ROOF VENT

⊗ - ROOF DRAIN

⊠ - AHU

SL - SKYLIGHT



3RD FLOOR

CATTARAUGUS COUNTY CENTER

LITTLE VALLEY, NY

AUTOCAD

SCALE:		DATE:	
DWG.	DGN.	TRACE	CK.

Appendix E Site Photographs for Asbestos-Containing Materials

Photo No. 1*: HAN600 – Grey Caulk, at Expansion Joints*

Photo No. 2*: HAN603 – Coping Stone Caulk*

Photo No. 3*: HAN606 – Window Glazing Compound*

Photo No. 4*: HAN710 – Roofing Cement, at Hanger Penetrations*

Appendix F Summary of Inspected Functional Spaces

- R-1-Lower Roof
- R-2-East Upper Roof
- R-3-Center Upper Roof
- R-4-West Upper Roof
- R-5-Original Jail Roof
- R-6-Jail Stairwell Penthouse Roof
- R-7-Jail Addition Roof